

REPORT

(PRELIMINARY)

ON THE

Health of the City of Leeds

FOR THE YEAR

1896.

BY

J. SPOTTISWOODE CAMERON,

M.D., B.Sc., &c.,

Medical Officer of Health to the City.

LEEDS:

JOWETT & SOWRY, PRINTERS AND LITHOGRAPHERS, 78, ALBION STREET.

SANITARY COMMITTEE,

1895-96.

Mayor : WILLIAM LAWIES JACKSON.

Chairman : COUNCILLOR WOMERSLEY.

Deputy-Chairman : ALDERMAN WALKER.

Alderman HARDING.

„ LOE.

„ LUPTON.

Councillor GORDON.

„ HANNAM.

„ BETTISON.

„ SIMPSON.

„ KNOWLES.

„ SMITH.

Councillor HEALD.

„ AMBLER.

„ CARTER.

„ SCHOLEFIELD.

„ BOOCOCK.

„ LEUTY.

„ WEBSTER.

„ VICKERS.

„ CLARKE.

MUNICIPAL BUILDINGS,

LEEDS, *11th February, 1897.*

To the Chairman of the Sanitary Committee.

SIR,

The health of Leeds in 1896, so far as this is indicated by the death-rate, has been unusually good. With the single exception of the year 1894 (when the rate fell to the unprecedentedly low figure of 17·9) the death-rate of 18·8 last year is one death per 1,000 below that of any year hitherto recorded.

The average mortality in Leeds during the ten years, 1865-74, was 28·4. During the decade, 1875-84, it was 23·7, and during the ten years, 1885-94, 21·1. In 1895 it was 20·5; in 1896, 18·8.

Taking the last three consecutive years, 1894-5-6, the death-rate for this triennium is 19·1, and is below that of any consecutive period of three years on record. The rate for this triennium is also lower by one per 1,000 than that of any three selected years preceding it. The three years with lowest death-rates, previous to 1894, were 1892 (19·8), 1885 (19·9), and 1888 (20·6), the average of the three being 20·1. But these three years of low mortality were severally sandwiched between years when the rates were high. The year 1892 (with a death-rate of 19·8) was preceded and followed by years with mortalities of 22·9 and 22·4 respectively. The year 1888 (with the rate of 20·6) had rates of 21·1 immediately before, and 22·1 immediately after it, while the mortality of 19·9, in 1885, came between one of 24·2 in 1884, and 21·9 in 1886.

Not only, however, is our low death-rate last year part of a steady fall in mortality, but the year itself exhibited to a less extent than usual those fluctuations in the death-rate which are so common. During the first quarter of the year the rate was 18·6; during the second quarter it was 18·8; during the third quarter 18·4; and the fourth, 19·1. Periods of shorter duration than three months shewed, of course, greater fluctuations, but, on the whole, these have been less marked in 1896 than in previous years.

Of the nine large cities of the United Kingdom, with populations exceeding a quarter of a million, only two had, last year, a death-rate so low. The rates in these cities were :—

Edinburgh ...	...	...	...	16·9
London ...	...	...	...	18·6
Leeds ...	...	...	...	18·8
Sheffield ...	...	...	...	19·3
Glasgow ...	...	...	...	20·4
Birmingham ...	...	...	...	20·8
Manchester ...	...	...	...	22·7
Liverpool ...	...	...	...	22·8
Dublin ...	...	...	...	24·9

Two important schemes for the improvement of insanitary areas received official sanction during the year. The foundations and a portion of the walls of the new hospital at Manston were also laid. Delay, however, occurred owing to the labourers' strike, or some substantial progress with the buildings might have been reported.

REPORTS MADE DURING YEAR.

Monthly.—During the year monthly reports have been made to the Sanitary Committee in reference to the health of the town. These have been accompanied by statistical tables shewing the total deaths in each Registration district, hospitals and public institutions being considered as separate districts; also the district and borough mortality at certain ages. The same table has also shewn the number of deaths from each of the seven zymotics, from croup, consumption,

and accident; the number of inquest cases, and the number of uncertified deaths. The table has also shewn for the borough and its districts the approximate population, the comparative annual mortality for the month for each 1,000 persons estimated as living, and the same for the corresponding period of the previous year. Attention has also been directed, from time to time, to special matters requiring the consideration of the Authority.

Weekly.—A smaller table has also been prepared shewing, for the borough as a whole, the number of zymotic cases and deaths, the deaths from pneumonia, and the cases removed to hospital each week. This information has been at the service of the press.

Quarterly.—The Committee has also received from me, in print, a more detailed statement of mortality, shewing the number of deaths and the approximate death-rate per 1,000 for each of the municipal wards of the borough during each quarter. In the same reports the birth-rates and the death-rates, not only from all causes, but also from the seven commoner zymotic diseases, for the registration sub-districts for the same periods of 13 weeks were given. There has also been laid before the Committee, each quarter, a printed statement, on a form similar to table II, in the more extended "Annual Report," of the work done in each ward of the borough by the District inspectors. A table similar to table F. has accompanied this report, and another with some of the details contained in table A.

Trough Closets.—A special report was prepared on methods of remedying the nuisance complained of from these closets when emptied on Sunday night.

Drain Testing.—A printed report on a suggestion for expediting the complete testing of all house drains in the city was also presented.

Tan-yard Effluents.—A special report on the reception of these into the sewers was presented to you in October.

SUGGESTIONS AND RECOMMENDATIONS.

Some of the following recommendations have been already before you. I have in some places retained the very words of previous reports.

Midden Privies.—Although the Corporation by the 58th section of the local Act, 1866, have plenary powers of having all these converted into water closets, with dry ashpits, there yet remain many in very unsuitable situations.

Trough Closets.—Although the trough water closet is a great improvement upon the old midden which it has superseded, and although these conveniences are now cleansed much more frequently and much more efficiently than when I drew your attention to them in my report on the measles outbreak at the end of 1890 and beginning of 1891, there still remains much to be desired.

Twenty-four hours is a very long time, in hot weather, to allow the matters to remain in these closets. Yet from Saturday to Monday they remain there forty-eight. Some householders who have bedrooms over these conveniences complain bitterly of their offensiveness when discharged on Monday morning. It has to be remembered that though the emptying of the trough and use of the flushing-pipe is carried out, with the exception just named, pretty regularly every night, the completer cleansing by the brush is only done ordinarily about once a fortnight. This is more frequently than formerly, and the use of the hose-pipe is better attended to, but it will be understood that the sides of these receptacles, notwithstanding, become coated with offensive matters, which the hose-pipe will not altogether remove, and that new material is added, not to clean water, but to water in contact with matters already undergoing decomposition.

In hot weather, a small quantity of sulphate of iron, or other antiseptic, has been added to the water of some

of these, from time to time, but hardly often enough to do all that could be wished. I would recommend that we do this more extensively in warm weather.

Unpaved Streets.—Numerous streets in various parts of the town are still unpaved. This means also that they are uncleansed. Vegetable and other animal matters are thrown out upon these streets, and remain there, as our brushes do not traverse them. The neighbourhood is thus also kept damp, not to mention the annoyance to passengers. It is desirable, from a sanitary point of view, that impervious roadways be provided as soon as possible after the houses are complete.

Undisconnected Drains.—I must again remind you that one of the most serious difficulties in making Leeds healthy arises from the large number of houses that are still connected to the drains. Something like two-thirds of the houses examined on account of illness are found to have some connection with the sewer. The principle of cutting off every house drain has been long admitted by the Corporation, but houses have been built, *even quite recently*, in which this principle has not been carried out. I should like the support of the Committee in pressing for this improvement in all existing property.

Adoptive Acts.—The attention of the Committee has been drawn from time to time to certain sanitary Acts which have not been adopted by the Authority, viz., "The Infectious Disease Prevention) Act, 1890," and "The Public Health Act, Amendment Act, 1890," part III. Practically, all the clauses asked for were included in the Leeds Bill of 1893, but were objected to on the ground that they formed part of the general law, and they were left for the Corporation to adopt in the ordinary manner. This has not yet been done, although the clauses referred to had received the sanction of the full Council as well as of the Sanitary Committee before they were placed in the draft of the Consolidation and Improvement Bill. Some rather amusing

results of the want of these powers were narrated in previous reports. In that on Tan-yard Effluents, already referred to, certain disabilities from the non-adoption of "The Public Health Amendment Act" were mentioned, and the Committee resolved to reconsider the question, but we are still without these adoptive powers.

Back-to-back Dwellings.—The Council are now in a position to refuse consent to the building of any back-to-back houses in future. Formerly, certain conditions complied with, they could not refuse their sanction to the erection of this objectionable class of dwelling.

I propose to deal in a supplementary report with some special incidence of disease, and to give you further details as to the work of your inspectors. The Corporation have reason to be satisfied with the way in which Mr. Swallow, his two divisional inspectors, Mr. Mills and Mr. G. Newhouse, his ward inspectors, the removal officers, and the disinfecting men throw themselves into their work.

To Mr. Darley and Mr. Hanford I feel that we are largely indebted for the continued improvement in the health of the town.

The Food and Drugs inspector, the Smoke inspector, and the other special inspectors have kept steadily and efficiently at their work.

Personally, I have to thank the Chief Clerk and his staff for the great assistance they have given me in laying before you my frequent reports.

Finally, sir, I have to thank yourself and the Committee over which you preside, for the way in which you and they have supported my action during the year, and especially for the great kindness shown me during the time I have been laid up with fever.

J. SPOTTISWOODE CAMERON.

Table shewing deaths recorded in the City of Leeds during the fifty-three weeks ended 2nd January, 1897, classified according to cause, age, and the registration sub-districts or institutions in which they occurred.

Including the death of eight persons at Vandon (outside of London),

TABLE A, Part 2.

Table of populations, registered births, and mortality at certain ages,
in the registration sub-districts.

(Public institutions regarded as sub-districts.)

Population estimated to middle of 1896.										402,449	11,428	38,937	89,708	82,771	157,829	9,254	12,522
REGISTRATION OF SUB-DISTRICTS OF LEEDS CITY.	Population at all ages.		Registered Births	Mortality from all causes, at subjoined ages.										Death- rate per 1,000 for each district.			
	Census 1891	Estimated to middle of 1896.		At all ages.	Under 1 year.	1 and under 5	5 and under 15	15 and under 25	25 and under 60	60 and under 65	65 and upwards						
Leeds Township—North ..	60,618	61,396	2,260	1,095	402	193	33	38	248	60	121	17.55					
Do. do. West ..	83,520	84,938	2,253	1,367	377	168	37	69	372	66	278	15.84					
Do. do. South-East	33,385	33,674	1,106	714	206	159	30	28	139	36	66	20.87					
Hunslet	58,164	63,962	2,132	1,178	378	227	36	53	274	66	144	18.13					
Holbeck	23,592	26,470	900	494	152	68	19	26	122	31	76	18.37					
Worley	49,436	54,755	1,716	899	315	141	28	39	194	43	139	16.17					
Kirkstall	29,911	36,890	1,040	504	113	66	32	21	144	24	104	13.45					
Bramley	14,787	16,062	481	263	82	34	8	16	68	14	41	16.12					
Chapel-town	13,661	23,870	552	250	56	28	4	10	77	14	61	10.31					
Osmundthorpe	431	432	6	10	2	1	..	..	3	1	3	22.79			
Infirmary .. ..	..	..	..	412	12	32	46	45	236	21	20	..		
*Fever Hospitals .. ..	..	..	..	67	3	20	5	16	21	..	2	..		
WORKHOUSES Leeds .. Hunslet .. Holbeck.. Bramley..	..	..	58	313	20	4	5	9	131	37	107	..			
	..	..	9	53	1	1	1	..	17	5	28	..			
	..	..	13	30	1	..	..	2	6	4	17	..	
	..	..	7	33	..	1	..	..	9	4	19	..	
For the whole City.. ..	367,505	402,449	12,573	7,682	2,120	1,143	284	372	2,111	426	1,226	18.79					

* Including the deaths of 8 persons at Manston (outside the city boundary).

TABLE A, PART 3.
Table shewing Deaths recorded in the City of Leeds during the thirteen weeks ended 28th March, 1896, classified according to cause, age, and the registration sub-districts in which they occurred.

TOWNSHIP &c.	LEEDS.			WORKING-CLASSES.												TOTAL Mortality in City.	Annual rate per 1,000 pop.	Deaths per person outside City.	Deaths per person living in City.
	North.	West.	South E.	Hunslet.	Holbeck		Wortley.	Kirkstall Bramley.		Chapel- town.	Osmond- thorpe.	Infirmary, etc.	Fever Hospitals.	Hunslet.						H. Beck	Bramley
					und. ov.	und. ov.		und. ov.	und. ov.					und. ov.	und. ov.	und. ov.	und. ov.		
Provisionally Estim. Pop.— 402,449	61,336	84,938	37,674	63,962	26,470	51,755	36,890	16,062	23,870	432									
Under and over 5.	und. ov.	und. ov.	und. ov.	und. ov.	und. ov.	und. ov.	und. ov.	und. ov.	und. ov.	und. ov.	und. ov.	und. ov.	und. ov.	und. ov.	und. ov.	und. ov.	und. ov.	und. ov.	
Smallpox	1	1	4	5	2	2	2	2	2	2	1	1	1	1	1	1	1	1	
Measles	2	1	1	1	2	1	1	2	2	2	2	2	2	2	2	2	2	2	
Scarlatina	2	1	1	1	2	1	1	2	2	2	2	2	2	2	2	2	2	2	
Diphtheria	2	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	
Croup &c.	2	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	
Spasmodic																			
Whooping Cough	31	16	17	4	5	13	12	4	4	1									
Typhus																			
Enteric	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	
Other																			
Diarrhoea	2	2		2	1	4	1	1	1	1									
Cholera																			
Rheumatic Fever																			
Acute & sub- acute	1	1				1	2					2							
Erysipelas																			
Pneumonia	1	1	1	1	1	1	1	1	1	1									
Puerperal Fever																			
Ague	2	2	2	2	8	10	13	12	5	3		5	3	5	1	1	1	1	
Phthisis																			
Bronchitis	38	25	31	33	11	15	28	10	4	5		3	2	4	1	4	4	4	
Pneumonia																			
Pleurisy	17	19	8	21	4	11	8	9	1	7	1	6	6	1	2	3	3	3	
Heart Disease	1	4	3	5	1	6	1	2	2	2		17	17	2	2	17	17	17	
Injury &c.																			
Under and over 5.	79	51	103	105	76	21	50	60	27	52	6	21	10	15	1	1	8	7	
over 5.	64	43	81	61	47	33	47	51	27	35	14	16	11	16	2	4	46	2	
All other causes	265	353	172	239	123	203	142	57	52	4	92	17	37	10	61	121	107	61	
Total	173	160	205	131	186	152	154	142	87	372									
Mortality per 1,000	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05									

There was no death at Mairston during the quarter. † No return received during quarter.

TABLE A, PART 4.

1896.—SECOND QUARTER.

Table shewing Deaths recorded in the City of Leeds during the thirteen weeks ended 27th June, 1896, classified according to cause, age, and the registration sub-districts in which they occurred.

TOWNSHIP & Locality	LEEDS.				Hunslet.	Holbeck	Worley.	Kirkstall Bramley.				Chapel-thorpe.				In primary, etc.				WORKHOUSE.				Total Mortality	Deaths per 1,000 pop.
	North.	West.	South E.																						
Leeds Pop. 124,499	17,766	14,938	35,674		65,962	26,470	54,755	36,890	16,062	23,870	432														
Under age 15.	und. ov. 5 5 5	und. ov. 5 5 5	und. ov. 5 5 5		und. ov. 5 5 5	und. ov. 5 5 5	und. ov. 5 5 5	und. ov. 5 5 5	und. ov. 5 5 5	und. ov. 5 5 5	und. ov. 5 5 5					und. ov. 5 5 5	und. ov. 5 5 5	und. ov. 5 5 5	und. ov. 5 5 5	und. ov. 5 5 5	und. ov. 5 5 5	und. ov. 5 5 5	und. ov. 5 5 5	und. ov. 5 5 5	und. ov. 5 5 5
Smallpox	10	11	17		9		2	1																	
Measles	1	1	1		1		1																		
Scarlatina			1		1																				
Diphtheria			1		1		1																		
Croup (not smallpox)	3	2			2	1																			
Whooping Cough	17	12	9		16	3	18	3		1															
Typhoid																									
Other or doubtful	1	1			1			1																	
Diarrhoea	11	6	3		5	2	6	2		1															
Cholera																									
Rheumatism																									
Acute & Sub-acute Rheumatism																									
Erysipelas																									
Pyæmia																									
Septicæmia																									
Phæria																									
Fever																									
Ague																									
Phthisis	1	14	11		2	20																			
Brucella																									
Pneumonia	32	30	26		42	39	25	7	2	4															
Pleurisy																									
Heart Disease	11	24	1		19	16	16	11		6															
Injury, &c.	1	3	1		1	1	7			2															
Under and over 5	76	61	53		79	84	53	13	4	13															
All other cause	74	46	37		74	62	63	29	19	15															
Total	257	345	172		299	120	253	113	56	55															
Mortality per 1,000 per an.	16.8	15.6	20.5		18.8	18.2	18.5	12.3	14.0	13															

* Including one death which occurred at Mutton, of a person belonging to the City, from Smallpox. † No return received from Great

TABLE A, PART C.

1896.—FOURTH QUARTER.

Table shewing Deaths recorded in the City of Leeds during the thirteen weeks ended 2nd January, 1897, classified according to cause, age, and the registration sub-districts in which they occurred.

[illegible]

* There was no death at Manston Hospital during the quarter, but one at the Cottages, which is included in "Fever Hospitals" column.

TABLE B, Part 1. (SUB-DISTRICTS).

TABLE OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer of Health, during the 53 weeks of 1895, in the Urban Sanitary District of Leeds; classified according to Districts, Ages, and Localities.

Names of Localities adopted for the purpose of these Statistics.	Population at all ages.			Age 1 under 5, 5 under 15, 15 upwards.	New Cases of Sickness in each Locality, coming to the knowledge of the Medical Officer of Health.													Number of such Cases, Reported to their Homes in the several Localities for Treatment in the Isolation Hospital.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	Census, 1891.	Estimated to middle of 1896.	Registered Births.		(a)	(b)	(c)	(d)	(e)	New Cases of Sickness in each Locality, coming to the knowledge of the Medical Officer of Health.													Number of such Cases, Reported to their Homes in the several Localities for Treatment in the Isolation Hospital.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
										Small-pox.	Scarlatina.	Diphtheria.	Membranous Group.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Other.	Total.	Small-pox.	Scarlatina.	Diphtheria.	Membranous Group.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Other.	Total.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
North (H) ..	60,618	61,336	2,318	{ Under 5, 5 under 15, 15 upwards.	87	3	2	1	9	6	4	117	..	25	1	3	

Notification has been compulsory since the first of May, 1894. The City General Fever Hospital (the old House of Recovery), is situated in the district marked H. Cases admitted to the Isolation Hospitals from outside the city are not included in this table.

TABLE B, Part 2. (Wards).

Names of Localities adopted for the purpose of these Statistics.	Population at all ages.		Aged under 5, 5 under 15, 15 upwards.	New Cases of Sickness in each Locality, coming to the knowledge of the Medical Officer of Health.												
	Census, 1901.	Estimated to middle of 1886.		1	2	3	4	5	6	7	8	9	10	11	12	13
				Small-pox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued Fever.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Other.	TOTAL.
(a)	(b)	(c)	(d)													
Central	23,000	22,537	Under 5, 5 under 15, 15 upwards.	42 64 6	7 1 8	2 1 1	2 2 9	5 14 16				1 1 10		2 2 3		60 84 53
North	26,396	26,170	Under 5, 5 under 15, 15 upwards.	41 71 14	2 1 3	1 1 1	1 19 4	4 19 18				2 3 24		3 4 3		52 97 63
North-East (H)	24,190	25,064	Under 5, 5 under 15, 15 upwards.	17 29 6	1 3 1	1 1 1	1 4 7	3 3 12						1 2 24		21 41 52
East	25,598	26,391	Under 5, 5 under 15, 15 upwards.	28 37 6	5 1 1	2 1 1	3 6 13					3 1 24		2 3 6		43 47 58
South	17,255	16,802	Under 5, 5 under 15, 15 upwards.	34 49 10	1 1 1		2 19 12							1 1 16	1 1 5	39 71 47
East Hunslet	25,386	27,504	Under 5, 5 under 15, 15 upwards.	31 84 18	4 2 2		2 8 20					2 4 24		5 4 13	5 4 13	47 98 82
West Hunslet	23,794	28,183	Under 5, 5 under 15, 15 upwards.	20 50 8	1 2 3	1 3 1	1 19 22							1 4 22	1 1 1	23 78 56
Holbeck	21,563	23,822	Under 5, 5 under 15, 15 upwards.	13 28 4	2 3 2	1 1 1	1 10 22					3 2 25		2 4 1	1 3 1	20 49 57
Mill Hill	9,214	8,706	Under 5, 5 under 15, 15 upwards.	12 17 4	2 3 3	2 1 1	1 2 7							2 2 15	5 3 3	20 26 33
West	24,668	24,760	Under 5, 5 under 15, 15 upwards.	8 20 9	1 1 3	1 1 1	1 6 12							1 3 18	1 2 3	12 32 46
North-West	28,363	30,365	Under 5, 5 under 15, 15 upwards.	25 62 13	4 5 7	2 1 1	4 12 22							6 3 21	1 2 1	42 84 71
Brunswick	22,752	23,483	Under 5, 5 under 15, 15 upwards.	17 52 19	2 1 1	2 1 1	2 5 16							3 3 9	1 1 1	24 62 48
New Wortley	19,410	19,336	Under 5, 5 under 15, 15 upwards.	9 17 2	3 3 1	1 1 1	1 11 15			2		4 10 10		2 4 1	1 1 4	16 36 33
Armley and Wortley	26,436	31,316	Under 5, 5 under 15, 15 upwards.	14 19 6	1 3 3	1 1 1	3 7 10							2 2 25	2 2 1	22 23 55
Bramley	18,377	30,166	Under 5, 5 under 15, 15 upwards.	17 15 8	5 3 3	1 1 1	1 12 12							1 1 16	2 2 2	23 17 45
Headingley	30,834	38,001	Under 5, 5 under 15, 15 upwards.	44 71 26	9 10 4	1 1 1	3 4 21							3 2 19	3 3 3	59 91 77
Totals	367,505	402,440	Under 5, 5 under 15, 15 upwards.	372 685 159	47 31 42	11 5 31	33 146 259			2		37		35 31 502	24 33 52	523 941 836
Grand Total				2,121	120	16	42	435		2		37		368	109	2,350

TABLE B, PART 3.

The following new cases of Infectious Sickness were reported during the life of the patient in the several Registration Sub-districts and Wards of the City of Leeds during the thirteen weeks ended March 28th, 1896.

		Where treated.	Small-pox.	Scarlet fever.	Diphtheria.	Membranous croup.	Typhus fever.	Typhoid fever.	Continued fever.	Puerperal fever.	Erysipelas.	Cholera.	Other.	TOTALS.
SUB-DISTRICTS.	North	Hosp.	...	11	...	...	...	6	...	...	...	...	2	19
		Home	...	8	7	1	...	2	...	1	10	...	...	29
	West	Hosp.	...	19	1	...	...	5	...	...	...	...	6	31
		Home	...	13	11	1	...	11	...	3	14	...	...	53
	South-East	Hosp.	...	9	...	...	...	5	...	...	...	...	1	15
		Home	...	5	...	1	...	2	...	1	7	...	1	17
	Hunslet	Hosp.	...	21	...	...	...	...	...	...	...	...	3	24
		Home	...	22	1	...	...	3	...	...	10	...	...	36
	Holbeck	Hosp.	...	6	...	...	...	3	...	...	...	...	...	9
		Home	...	4	3	1	...	3	...	1	9	...	...	21
	Wortley	Hosp.	...	5	...	...	...	2	...	...	...	...	1	8
		Home	...	13	1	1	...	12	...	1	10	...	...	38
Kirkstall	Hosp.	...	15	...	...	...	1	...	...	...	...	1	17	
	Home	...	11	6	...	...	6	...	2	10	...	1	36	
Bramley	Hosp.	...	2	...	...	...	...	...	...	...	...	...	2	
	Home	...	2	1	...	...	...	...	1	2	...	...	6	
Chapelton	Hosp.	...	...	...	...	...	...	...	...	...	...	...	...
	Home	...	1	6	...	...	...	...	...	1	...	...	8	
Osmondthorpe	Hosp.	...	...	...	...	...	...	...	...	...	...	...	...
	Home	...	...	...	...	...	...	...	...	...	...	...	...
WARDS.	Central	Hosp.	...	3	...	...	...	...	...	...	...	...	1	4
		Home	...	6	5	...	...	2	...	1	3	...	...	17
	North	Hosp.	...	4	...	...	...	4	...	...	...	...	...	8
		Home	...	2	2	...	...	...	...	...	3	...	...	7
	North-East	Hosp.	...	3	...	...	...	2	...	...	...	...	1	6
		Home	...	1	2	...	...	...	...	...	5	...	...	8
	East	Hosp.	...	8	...	...	...	5	...	...	...	...	1	14
		Home	...	4	...	1	...	1	...	...	4	...	1	11
	South	Hosp.	...	2	...	...	...	...	...	...	...	...	1	3
		Home	...	6	...	...	...	1	...	1	7	...	...	15
	East-Hunslet	Hosp.	...	15	...	...	...	...	...	...	...	...	1	16
		Home	...	6	...	...	...	1	...	...	3	...	...	10
	West-Hunslet	Hosp.	...	5	...	...	...	...	...	...	...	...	1	6
		Home	...	13	1	1	...	2	...	...	3	...	...	20
	Holbeck	Hosp.	...	6	...	...	...	3	...	...	...	...	...	9
		Home	...	2	3	1	...	3	...	1	8	...	...	18
	Mill Hill	Hosp.	...	9	...	...	...	1	...	...	...	...	3	13
		Home	...	1	...	1	...	2	...	...	...	...	...	4
	West	Hosp.	...	6	...	...	...	1	...	...	...	...	1	8
		Home	...	1	2	...	...	3	...	...	5	...	...	11
	North-West	Hosp.	...	3	1	...	...	2	...	...	...	...	1	7
		Home	...	7	8	...	...	4	...	2	8	...	...	29
	Brunswick	Hosp.	...	2	...	...	...	1	...	...	...	...	1	4
		Home	...	4	2	...	...	2	...	1	2	...	...	11
	New Wortley	Hosp.	...	3	...	...	...	1	...	...	...	...	1	5
		Home	...	9	...	...	...	4	...	1	4	...	...	18
	Armley & Wortley	Hosp.	...	2	...	...	...	1	...	...	...	...	...	3
		Home	...	3	1	...	...	8	...	...	5	...	...	17
	Bramley	Hosp.	...	2	...	...	...	...	...	...	...	...	...	2
		Home	...	3	1	1	...	...	...	1	3	...	...	9
	Headingley	Hosp.	...	15	...	...	...	1	...	...	...	...	1	17
		Home	...	11	9	...	...	6	...	2	10	...	1	30
CITY	Hosp.	...	88	1	...	...	22	...	...	...	...	14	125	
	Home	...	79	36	5	...	39	...	10	73	...	2	244	
	Cases	...	167	37	5	...	61	...	10	73	...	16	369	

TABLE B, PART 4.

The following new cases of Infectious Sickness were reported during the life of the patient in the several Registration Sub-districts and Wards of the City of Leeds during the thirteen weeks ended June 27th, 1896.

		Where treated.	Small-pox.	Scarlet fever.	Diphtheria.	Membranous croup.	Typhus fever.	Typhoid fever.	Continued fever.	Puerperal fever.	Erysipelas.	Cholera.	Other.	TOTALS.
SUB-DISTRICTS.	North	Hosp.	...	10	...	...	...	1	...	...	...	...	4	15
		Home	...	7	2	...	...	3	...	1	12	...	...	25
	West	Hosp.	1	13	...	...	...	2	...	...	...	...	3	19
		Home	...	17	8	2	...	5	...	1	16	...	3	52
	South-East	Hosp.	...	8	...	...	...	1	...	...	...	...	1	10
		Home	...	7	3	1	...	...	...	2	9	...	1	23
	Hunslet	Hosp.	...	17	...	...	...	5	...	...	...	...	5	27
		Home	...	16	2	2	...	5	...	2	15	...	5	47
	Holbeck	Hosp.	1	7	...	...	...	1	...	...	...	...	...	9
		Home	...	5	2	...	...	2	...	...	8	...	...	17
	Wortley	Hosp.	...	1	...	...	...	1	...	...	...	...	2	4
		Home	...	6	0	...	...	4	...	1	10	...	2	20
	Kirkstall	Hosp.	...	10	...	...	...	3	...	...	...	...	...	13
		Home	...	11	5	...	...	4	...	...	4	...	...	24
	Bramley	Hosp.	...	6	...	...	...	...	...	...	...	...	...	6
		Home	...	...	3	...	...	1	...	...	4	...	...	8
	Chapeltown	Hosp.	...	3	...	...	...	...	...	...	...	...	...	3
		Home	...	...	1	...	...	3	...	...	1	...	...	5
	Osmondthorpe ...	Hosp.	...	...	...	...	...	...	...	...	...	...	...	...
		Home	...	...	...	...	...	...	...	...	...	...	...	...
WARDS.	Central	Hosp.	...	2	...	...	...	...	...	...	...	...	...	2
		Home	...	2	2	...	...	1	...	...	2	...	...	7
	North	Hosp.	...	3	...	...	...	1	...	...	...	...	2	6
		Home	...	4	...	...	...	4	...	1	5	...	...	14
	North-East	Hosp.	...	7	...	...	...	...	...	...	...	...	2	9
		Home	...	1	1	...	...	...	...	...	6	...	...	8
	East	Hosp.	...	6	...	...	...	1	...	...	...	...	1	8
		Home	...	4	3	1	...	...	...	1	5	...	1	15
	South	Hosp.	...	8	...	...	...	1	...	...	...	...	1	10
		Home	...	4	...	...	...	...	...	1	6	...	...	11
	East-Hunslet	Hosp.	...	8	...	...	...	4	...	...	...	...	4	16
		Home	...	...	2	...	...	4	...	1	8	...	5	20
	West-Hunslet	Hosp.	...	3	...	...	...	...	...	...	...	...	...	3
		Home	...	15	...	2	...	1	...	1	6	...	...	25
	Holbeck	Hosp.	1	7	...	...	...	1	...	...	...	...	...	9
		Home	...	5	2	...	...	2	...	...	7	...	...	16
	Mill Hill	Hosp.	...	7	...	...	...	...	...	...	...	...	2	9
		Home	...	...	1	1	...	...	...	...	6	...	...	8
	West	Hosp.	...	...	...	...	...	...	...	...	...	...	...	...
		Home	...	11	2	...	...	...	...	...	4	...	3	20
	North West	Hosp.	1	6	...	...	...	2	...	...	...	...	1	10
		Home	...	4	5	1	...	2	...	1	5	...	...	18
	Brunswick	Hosp.	...	...	...	...	...	...	...	...	...	...	...	...
		Home	...	1	...	...	...	3	...	...	1	...	1	6
	New Wortley	Hosp.	...	1	...	...	...	1	...	...	...	...	2	4
		Home	...	2	6	...	...	1	...	1	2	...	1	13
	Armley & Wortley ..	Hosp.	...	...	...	...	...	...	...	...	...	...	...	...
		Home	...	4	...	...	...	2	...	...	0	...	1	13
	Bramley	Hosp.	...	6	...	...	...	...	...	...	...	...	...	6
		Home	...	...	3	...	...	2	...	...	6	...	...	11
	Headingley	Hosp.	...	11	...	...	...	3	...	...	...	...	...	14
		Home	...	11	5	...	...	5	...	...	4	...	...	25
	T. V.	Hosp.	2	75	...	...	...	14	...	...	...	...	15	106
		Home	...	69	32	5	...	27	...	7	79	...	11	230
		Cases	2	144	32	5	...	41	...	7	79	...	26	336

TABLE B, Part 5.

The following new cases of Infectious Sickness were reported during the life of the patient in the several Registration Sub-districts and Wards of the City of Leeds during the fourteen weeks ended October 3rd, 1896.

		Where re-ated.	Small- pox.	Scar- let fever.	Diph- theria.	Mem- bran- ous croup.	Ty- phus fever.	Ty- phoid fever.	Con- tinued fever.	Puer- peral fever.	Erys- ipelas.	Cho- lera.	Other.	TOTALS.
SUB-DISTRICTS.	North	Hosp.	...	32	...	...	29	34	...	...	...	...	8	100
		Home	...	43	5	1	...	19	...	...	20	...	...	88
	West	Hosp.	...	27	...	...	2	12	...	...	...	...	2	43
		Home	...	28	2	1	...	24	...	3	27	...	5	90
	South-East	Hosp.	...	19	...	...	...	3	...	...	...	...	4	26
		Home	...	8	3	...	...	3	...	...	9	...	1	24
	Hunslet	Hosp.	...	25	...	...	5	12	...	...	...	...	7	49
		Home	...	68	3	1	...	39	...	3	17	...	3	131
	Holbeck	Hosp.	...	7	...	...	...	5	...	...	...	...	...	12
		Home	...	8	1	1	...	10	...	...	7	...	2	29
	Wortley	Hosp.	...	10	...	...	...	4	...	...	...	...	2	16
		Home	...	20	3	...	...	19	...	1	17	...	...	60
	Kirkstall	Hosp.	...	3	...	...	2	1	...	...	...	...	2	18
		Home	...	30	1	...	...	6	...	1	2	...	1	41
WARDS.	Central	Hosp.	...	11	...	...	10	13	...	...	...	...	4	38
		Home	...	35	4	1	...	14	...	...	5	...	...	59
	North	Hosp.	...	16	...	...	4	17	...	...	...	...	4	41
		Home	...	19	...	1	1	6	...	1	9	...	1	38
	North-East	Hosp.	...	6	...	...	12	4	...	...	...	...	...	22
		Home	...	7	1	...	...	2	...	...	9	...	...	19
	East	Hosp.	...	10	...	...	...	3	...	...	...	...	4	17
		Home	...	4	2	...	...	3	...	...	8	...	1	18
	South	Hosp.	...	22	...	...	...	3	...	...	...	...	1	26
		Home	...	25	1	...	...	7	...	...	3	...	...	36
	East-Hunslet	Hosp.	...	9	...	...	5	6	...	...	...	...	6	26
		Home	...	34	2	...	...	11	...	1	6	...	2	56
	West-Hunslet	Hosp.	...	2	...	...	...	3	...	...	...	...	...	5
		Home	...	17	1	1	...	23	...	1	11	...	1	55
	Holbeck	Hosp.	...	8	...	...	...	5	...	...	...	...	...	13
		Home	...	5	1	1	...	8	...	1	5	...	2	23
WARDS.	Mill Hill	Hosp.	...	6	...	...	1	3	...	...	...	...	...	10
		Home	...	2	1	...	...	2	...	...	7	...	5	17
	West	Hosp.	...	2	...	...	...	2	...	...	...	...	1	5
		Home	...	3	1	...	...	7	...	...	8	...	...	19
	North West	Hosp.	...	12	...	...	...	5	...	...	...	...	...	17
		Home	...	8	...	1	...	13	...	3	8	...	...	33
	Brunswick	Hosp.	...	7	...	...	1	2	...	...	...	...	1	11
		Home	...	16	...	...	...	2	...	...	4	...	...	22
	New Wortley	Hosp.	...	4	...	...	...	3	...	...	...	...	2	6
		Home	...	6	1	...	...	12	...	...	6	...	...	25
	Armley & Wortley	Hosp.	...	5	...	...	...	1	...	...	...	...	...	6
		Home	...	14	2	...	...	7	...	1	10	...	...	34
	Bramley	Hosp.	...	4	...	...	...	2	...	...	...	...	...	6
		Home	...	11	3	...	...	2	...	1	3	...	...	20
	Headingley	Hosp.	...	13	...	...	2	1	...	...	...	...	2	18
		Home	...	30	1	...	...	6	...	1	2	...	1	41
CITY		Hosp.	...	137	...	...	35	73	...	...	...	...	25	270
		Home	...	236	21	5	1	125	...	10	104	...	13	515
	Cases		...	373	21	5	36	198	...	10	104	...	38	785

TABLE B, Part 6.

The following new cases of Infectious Sickness were reported during the life of the patient in the several Registration Sub-districts and Wards of the City of Leeds during the thirteen weeks ended January 2nd, 1897.

		Where contracted	Small pox	Scarlet fever	Diphtheria	Measles (not infectious fever)	Typhoid fever	Erysipelas	Scarlet fever	Whooping cough	Cholera	Onion	TOTALS
SUB-DISTRICTS.	North	(Hosp.)	...	38	...	...	...	9	...	...	...	3	51
		(Home)	...	92	7	1	...	12	...	...	...	2	114
	West	(Hosp.)	...	38	...	...	1	12	...	...	...	3	54
		(Home)	...	101	4	...	...	18	...	20	...	3	154
	South	(Hosp.)	...	8	...	...	5	7	...	...	...	3	23
		(Home)	...	31	1	...	...	3	...	11	...	...	49
	Thorncliffe	(Hosp.)	...	26	...	...	...	15	...	...	...	7	48
		(Home)	...	78	3	...	...	20	...	21	...	...	124
	Holbeck	(Hosp.)	...	4	...	...	...	6	...	...	...	3	13
		(Home)	...	10	1	...	...	6	...	11	...	...	28
	Wortley	(Hosp.)	...	4	...	...	...	1	...	...	...	1	6
		(Home)	...	11	1	...	...	15	2	3	12	...	45
	Rockst. H.	(Hosp.)	...	12	...	...	...	3	...	...	...	...	15
		(Home)	...	35	8	...	...	3	...	...	...	1	55
	Frithley	(Hosp.)	...	2	...	...	...	2	...	...	...	2	6
		(Home)	...	12	1	...	...	2	...	1	4	...	23
WARDS.	Clapham	(Hosp.)	...	9	...	...	...	1	...	...	...	...	1
		(Home)	...	21	4	...	...	...	...	3	...	...	28
	Osmundthorpe	(Hosp. ....)	...	...	...	...	...	...	...	...	...	...	...
		(Home ....)	...	...	...	...	...	...	...	...	...	...	...
	Central	(Hosp.)	...	10	...	...	1	1	...	...	...	...	12
		(Home)	...	43	5	1	...	4	...	5	...	...	58
	North	(Hosp.)	...	20	...	...	...	5	...	...	...	2	27
		(Home)	...	58	4	...	...	4	...	9	...	1	70
	North-East	(Hosp.)	...	15	...	...	...	4	...	...	...	1	20
		(Home)	...	12	1	...	...	1	...	4	...	1	22
	East	(Hosp.)	...	7	...	...	5	7	...	...	...	2	21
		(Home)	...	28	1	...	...	2	...	2	11	...	44
	South	(Hosp.)	...	10	...	...	...	10	...	...	...	4	24
		(Home)	...	16	1	...	...	11	...	2	2	...	32
	East-Hunslet	(Hosp.)	...	12	...	...	...	1	...	...	...	4	17
		(Home)	...	40	2	...	...	3	...	12	...	...	60
	West-Hunslet	(Hosp.)	...	6	...	...	...	4	...	...	...	...	10
		(Home)	...	17	...	...	...	8	...	1	7	...	33
	Holbeck	(Hosp.)	...	3	...	...	...	6	...	...	...	3	12
		(Home)	...	6	1	...	...	5	...	11	...	...	26
	Mill Hill	(Hosp.)	...	5	...	...	...	2	...	...	...	1	8
		(Home)	...	3	1	...	...	...	...	4	...	2	10
	West	(Hosp.)	...	4	...	...	...	1	...	...	...	...	5
		(Home)	...	10	...	...	...	5	...	1	5	...	22
	North-West	(Hosp.)	...	14	...	...	...	3	...	...	...	2	19
		(Home)	...	40	2	...	...	7	...	9	...	...	64
	Frinswick	(Hosp.)	...	15	...	...	...	6	...	...	...	...	21
		(Home)	...	42	2	...	...	7	...	8	...	...	59
	New Wortley	(Hosp. ....)	...	...	...	...	...	...	...	...	...	...	...
		(Home)	...	3	...	...	...	5	2	2	4	...	16
	Arley & Wortley	(Hosp.)	...	3	...	...	...	1	...	...	...	1	5
		(Home)	...	8	1	...	...	9	...	8	...	1	27
	Brumley	(Hosp.)	...	2	...	...	...	2	...	...	...	2	6
		(Home)	...	12	1	...	...	5	...	2	5	...	28
	Headingley	(Hosp.)	...	15	...	...	...	3	...	...	...	...	18
		(Home)	...	35	8	...	...	3	...	8	...	1	55
CITY.		(Hosp.)	...	20	...	...	0	50	...	...	...	22	225
		(Home)	...	591	30	1	...	82	2	10	112	7	935
	Case	...	...	612	30	1	0	132	2	10	112	29	860

TABLE E. PART 1.—PROVISIONAL FOR 1896.

The following Births and Deaths were recorded in the several Sub-Registration Districts of the City of Leeds during the fifty-three weeks ended 2nd January, 1897. The figures in italics after the Births and Deaths give the proportion per annum per 1,000 of the estimated population.

Districts.	Births.	Birth Rate.	Deaths.	Death Rate.	
				All causes.	7 Zymotics.
North	2,318	37·2	1,298	20·8	2·9
West	2,253	26·1	1,534	17·8	1·6
South-East	1,146	33·5	834	24·4	3·1
Hunslet	2,141	33·0	1,273	19·6	3·3
Holbeck	913	34·0	544	20·2	2·1
Wortley	1,723	31·0	950	17·1	2·2
Kirkstall	1,040	27·8	537	14·3	1·4
Bramley	481	29·5	280	17·2	2·1
Chapeltown	552	22·8	261	10·8	1·2
Osmondthorpe	6	13·7	10	22·8	9·1
<i>Outsiders</i> ... ..	...	...	161	...	...
Totals	12,573	30·75	7,682	18·79	2·30

Considered as occurring in the Municipal Wards, the foregoing Deaths are classed as follows :—

Wards.	Deaths.	Death Rate.	Wards.	Deaths.	Death Rate.
Eastern Division.			Western Division.		
Central	420	18·5	Mill Hill	167	18·9
North	542	14·8	West	512	20·4
North-East	611	24·0	North-West	510	16·5
East	667	24·9	Brunswick... ..	363	15·2
South	398	23·3	New Wortley	355	18·1
East Hunslet	580	20·8	Armley	540	17·0
West Hunslet	436	15·2	Bramley	335	16·4
Holbeck	534	22·1	Headingley	551	14·3

In both these tables deaths occurring in public institutions (including deaths at Manston Hospital) have been referred to the districts to which the patients belonged. The births in workhouses are included in those of the districts in which these institutions are situated.

As it is five years since the Census of the Wards and Districts was taken, the death-rates given above being calculated upon estimated populations, cannot, of course, be considered as more than approximately accurate.

TABLE E, PART 2.

The following Births and Deaths were recorded in the several Sub-Registration Districts of the City of Leeds during the thirteen weeks ended 28th March, 1896. The figures in italics after the Births and Deaths give the proportion per annum per 1,000 of the estimated population.

Districts.	Births.	Birth Rate.	Deaths.	Death Rate.	
				All causes.	Zymotics.
North	543	35.5	323	21.1	2.5
West	526	24.9	379	17.9	1.2
South East	281	33.5	201	24.0	3.1
Hunslet	524	32.9	309	19.4	4.3
Holbeck	232	35.2	134	20.3	2.3
Wortley	379	27.8	218	16.0	1.8
Kirkstall	247	26.9	147	16.0	2.4
Bramley	100	25.0	61	15.2	...
Chapelton	124	20.9	54	9.1	1.0
Osmondthorpe	1	9.3	4	37.2	9.3
<i>Outsiders</i> ... ..	...	...	41	...	...
Totals	2,957	29.5	1,871	18.7	2.3

Considered as occurring in the Municipal Wards, the foregoing Deaths are classed as follows:—

Eastern Division.			Western Division.		
Wards.	Deaths.	Death Rate.	Wards.	Deaths.	Death Rate.
Central	110	19.7	Mill Hill	42	19.4
North	125	13.9	West	133	21.6
North-East	148	23.7	North-West	134	17.7
East	166	25.2	Brunswick	77	13.2
South	116	27.7	New Wortley	77	16.0
East Hunslet	143	20.9	Armley	126	16.2
West Hunslet	95	13.5	Bramley	76	15.1
Holbeck	114	19.2	Headingley	148	15.6

In the above tables deaths occurring in public institutions have been referred to the districts to which the patients belonged. The births in workhouses are included in those of the districts in which these institutions are situated. There was no death at Manston Hospital during this quarter.

TABLE E, PART 3.

The following Births and Deaths were recorded in the several Sub-Registration Districts of the City of Leeds during the thirteen weeks ended 27th June, 1896. The figures in italics after the Births and Deaths give the proportion per annum per 1,000 of the estimated population.

Districts.	Births.	Birth Rate.	Deaths.	Death Rate.	
				All causes.	7 Zymotics.
North	584	38·2	300	19·6	2·7
West	579	27·4	389	18·4	1·6
South-East	295	35·2	201	24·0	3·8
Hunslet	516	32·4	323	20·3	2·3
Holbeck	228	34·6	130	19·7	1·2
Wortley	406	29·8	267	19·6	2·1
Kirkstall	257	28·0	122	13·3	1·2
Bramley	116	29·0	63	15·7	0·2
Chapelton	118	19·8	57	9·6	0·5
Osmondthorpe	2	18·6	2	18·6	...
<i>Outsiders</i> ... ..	...	...	37	...	...
Totals	3,101	30·0	1,891	18·9	1·9

Considered as occurring in the Municipal Wards, the foregoing Deaths are classed as follows:—

Wards.	Deaths.	Death Rate.	Wards.	Deaths.	Death Rate.
Eastern Division.			Western Division.		
Central	98	17·6	Mill Hill	41	18·9
North	124	13·8	West	132	21·4
North East	141	22·6	North-West	122	16·1
East	165	25·1	Brunswick... ..	96	16·4
South	84	20·1	New Wortley	102	21·2
East Hunslet	143	20·9	Armley	152	19·5
West Hunslet	115	16·4	Bramley	76	15·1
Holbeck	138	23·3	Headingley	125	13·2

In both these tables persons occurring in public institutions have been referred to the districts to which the patients belonged. The births in workhouses are included in those of the districts in which these institutions are situated. There was one death at Manston Hospital during this quarter, from smallpox.

TABLE E, PART 4.

The following Births and Deaths were recorded in the several Sub-Registration Districts of the City of Leeds during the fourteen weeks ended 3rd October, 1896. The figures in italics after the Births and Deaths give the proportion per annum per 1,000 of the estimated population.

Districts.	Births.	Birth Rate.	Deaths.	Death Rate.	
				All causes.	Zymotics.
North	594	<i>36.1</i>	341	<i>20.7</i>	<i>4.7</i>
West	588	<i>25.8</i>	376	<i>16.5</i>	<i>2.6</i>
South-East	285	<i>31.5</i>	207	<i>22.9</i>	<i>4.0</i>
Hunslet	592	<i>34.5</i>	358	<i>20.9</i>	<i>5.4</i>
Holbeck	233	<i>32.8</i>	150	<i>21.1</i>	<i>3.4</i>
Wortley	485	<i>33.0</i>	230	<i>15.7</i>	<i>3.1</i>
Kirkstall	271	<i>27.4</i>	126	<i>12.7</i>	<i>1.1</i>
Bramley	136	<i>31.6</i>	81	<i>18.8</i>	<i>4.6</i>
Chapel-town	162	<i>25.3</i>	69	<i>10.8</i>	<i>2.5</i>
Osmondthorpe	2	<i>17.3</i>	4	<i>34.5</i>	<i>25.9</i>
<i>Outsiders</i> ... ..	...	...	41	...	...
Totals	3,348	<i>31.0</i>	1,983	<i>18.4</i>	<i>3.6</i>

Considered as occurring in the Municipal Wards, the foregoing Deaths are classed as follows:

Wards.		Deaths.	Death Rate.	Wards.		Deaths.	Death Rate.		
Eastern Division.				Western Division.					
Central	111	18.5	Mill Hill	...	...	42	18.0
North	137	14.1	West	...	...	121	18.2
North-East	168	25.0	North-West	...	...	117	14.4
East	167	23.6	Brunswick	...	...	97	15.4
South	96	21.3	New Wortley	...	...	102	19.7
East Hunslet	171	23.2	Armley	...	...	118	14.0
West Hunslet	122	16.1	Bramley	...	...	91	16.8
Holbeck	153	23.9	Headingley	...	...	129	12.7

In both these tables deaths occurring in public institutions have been referred to the districts to which the patients belonged. The births in workhouses are included in those of the districts in which the institutions are situated. There was six deaths at Manston Hospital during this quarter, from typhus fever.

TABLE E, PART 5.

The following Births and Deaths were recorded in the several Sub-Registration Districts of the City of Leeds during the thirteen weeks ended 2nd January, 1897. The figures in italics after the Births and Deaths give the proportion per annum per 1,000 of the estimated population.

Districts.	Births.	Birth Rate.	Deaths.	Death Rate.	
				All causes.	Zymotics.
North	597	<i>39.0</i>	334	<i>21.8</i>	<i>1.6</i>
West	560	<i>26.5</i>	390	<i>18.4</i>	<i>0.7</i>
South-East	285	<i>34.0</i>	225	<i>26.8</i>	<i>1.6</i>
Hunslet	509	<i>31.9</i>	283	<i>17.8</i>	<i>1.1</i>
Holbeck	220	<i>33.4</i>	130	<i>19.7</i>	<i>1.5</i>
Wortley	453	<i>33.2</i>	235	<i>17.2</i>	<i>1.6</i>
Kirkstall	265	<i>28.8</i>	142	<i>15.4</i>	<i>0.9</i>
Bramley	129	<i>32.2</i>	75	<i>18.7</i>	<i>2.8</i>
Chapelton	148	<i>24.9</i>	81	<i>13.6</i>	<i>0.8</i>
Osmondthorpe	1	<i>9.3</i>	...	...	...
<i>Outsiders</i> ... ..	...	...	42	...	...
Totals	3,167	<i>31.6</i>	1,937	<i>19.3</i>	<i>1.3</i>

Considered as occurring in the Municipal Wards, the foregoing Deaths are classed as follows:—

Wards.	Deaths.	Death Rate.	Wards.	Deaths.	Death Rate.
Eastern Division.			Western Division.		
Central	101	18.1	Mill Hill	42	19.3
North	156	17.3	West	126	20.4
North-East	154	24.6	North West	137	18.1
East	169	25.4	Brunswick	93	15.9
South	102	24.4	New Wortley	74	15.4
East Hunslet	123	17.9	Armley	144	18.5
West Hunslet	104	14.8	Bramley	92	18.3
Holbeck	120	21.7	Headingley	149	15.7

In both these tables deaths occurring in public institutions have been referred to the districts to which the patients belonged. The births in workhouses are included in those of the districts in which these institutions are situated. There was one death at Mauston Cottages during this quarter.

TABLE F.

Shewing Births, Deaths, from all and certain causes, Home Patients of the Dispensary, admissions to the Fever Hospitals, and some of the Meteorological condition, and the Death-rates from certain causes in Leeds; with the Birth and Death-rates from all causes in the 33 large English towns for each of the thirteen weeks ended March 25th, 1896.

1896.		JANUARY.					FEBRUARY.					MARCH.				TOTALS OR AVERAGES.
		Jan. 4th.	Jan. 11th.	Jan. 18th.	Jan. 25th.	Feb. 1st.	Feb. 8th.	Feb. 15th.	Feb. 22nd.	Feb. 29th.	Mar. 7th.	Mar. 14th.	Mar. 21st.	Mar. 28th.		
Total Births	1	246	210	209	228	211	208	241	210	230	241	222	250	251	2057	
Total Deaths	2	145	137	135	144	154	156	117	127	143	132	176	139	136	1,871	
Under 1 year	3	40	32	40	40	33	39	26	31	38	27	42	42	28	435	
1 to 2 years	4	9	14	12	8	17	20	23	12	13	11	23	10	17	189	
2 to 5 years	5	13	15	13	12	15	10	19	5	10	11	14	5	11	154	
5 to 60 years	6	54	51	40	53	51	50	53	47	49	42	60	52	47	655	
60 yrs. and upwards	7	29	25	24	31	38	37	29	32	24	41	37	30	33	410	
Deaths: Small-pox..	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	9	5	9	7	5	3	4	6	4	10	4	5	1	3	66	
Scarlet Fever	10	...	2	...	1	2	3	2	...	1	...	...	...	...	11
* Diphtheria	11	...	1	...	2	1	1	5	1	1	1	...	1	3	17	
Whooping-cough..	12	8	10	6	4	11	9	10	7	9	6	14	7	5	106	
{ Typhus Fever	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...
{ Enteric Fever	14	2	2	1	1	1	1	2	...	1	...	...	3	1	15
{ Other or doubtful	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhoea or Dysent.	16	...	...	1	1	...	...	2	1	3	3	1	1	...	13
All seven	17	15	24	15	14	18	18	27	13	25	14	20	13	12	228	
Cholera	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Croup	19	...	1	...	1	...	1	...	...	1	2	...	...	1	7
Dis. of Resp. System	20	41	26	35	35	31	29	28	36	28	38	39	32	37	435	
Influenza	21	1	...	...	...	...	1	...	...	...	...	...	...	...	2
Phthisis	22	8	9	11	14	11	12	15	10	15	11	12	17	10	155	
Dis. of Circul. System	23	5	11	11	6	12	14	9	11	9	11	12	11	11	139	
Violent Deaths	24	8	9	5	8	9	8	1	2	1	2	6	3	7	60	
Inquest cases	25	22	17	14	13	18	13	11	10	8	6	17	12	11	172	
Deaths in Pub. Inst.	26	16	16	10	17	25	20	15	9	12	14	29	13	16	221	
Dispensary: visits pd.	27	287	292	258	241	240	210	256	254	216	257	288	276	283	3,338	
Cases admitted to our own hospitals	28	17	12	8	13	12	4	17	7	10	7	8	6	10	131	
Barom. (inches)	29	29.84	29.50	29.03	30.00	30.41	30.27	30.14	29.91	30.03	29.11	29.83	29.55	29.76	29.91	
Attached Ther. F..	30	50.00	45.02	49.02	45.08	47.23	48.15	51.00	45.77	41.46	47.00	49.23	48.31	50.38	47.40	
Dry bulb	31	48.54	39.15	44.38	41.34	41.00	45.38	47.77	39.77	38.23	44.85	44.23	47.54	48.54	44.13	
Wet bulb	32	47.00	37.54	41.69	38.77	40.02	42.02	44.31	37.77	35.62	41.54	41.08	43.69	44.23	41.29	
Humidity	33	89.31	86.15	79.62	79.77	70.00	82.15	79.40	82.92	78.08	79.15	77.69	74.31	71.85	79.29	
Mn. of highest reading	34	50.29	40.86	49.37	42.57	40.43	48.00	51.00	43.00	41.86	47.71	49.00	52.29	52.71	47.10	
" lowest ..	35	43.57	35.00	39.43	34.43	37.29	38.14	41.71	35.29	32.00	38.29	38.00	38.86	40.71	37.90	
" daily range ..	36	6.72	5.86	7.14	8.14	9.14	9.86	9.29	7.71	9.86	6.42	11.00	13.43	12.00	9.20	
Total rain, in inches	37	0.46	...	0.39	0.05	0.05	...	0.04	0.29	0.49	0.98	0.48	0.54	0.74	4.48	
Wind (Direction) ..	38	SE	NW	NW	NW-SW	SW	SW	SW	SE	SE	NW-SW	NW	SW-NW	SW-NW	...	
Wind (Force 0-6) ..	39	1	1	2	1	1	1	1	1	1	2	1	1	1	1	
Amount of Cloud 10	40	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Birth-rate (Leeds) ..	41	31.9	27.2	27.1	29.6	27.4	27.9	31.2	27.2	29.8	31.2	28.8	32.4	32.5	29.5	
Death-rate (Leeds) ..	42	18.8	17.8	17.5	18.7	20.0	20.2	19.1	19.5	18.5	17.1	22.8	18.0	17.6	18.7	
Birth-rate (33 towns)	43	32.2	30.2	29.0	28.5	29.5	31.1	30.7	28.9	31.1	30.3	32.1	30.8	31.8	30.4	
Death-rate (33 towns)	44	20.7	18.5	19.7	18.8	18.4	20.5	19.3	19.4	20.0	20.7	20.0	19.2	18.8	19.5	
D.R. Infants (Leeds)	45	5.3	3.4	4.5	4.5	4.0	3.8	3.0	4.7	3.6	4.9	5.1	4.3	4.8	4.3	
D.R. Whooping-cough ..	46	1.0	1.3	0.8	0.5	1.4	1.2	1.3	0.9	1.2	0.8	1.8	0.6	0.6	1.1	

The Dispensary returns are furnished me by the kindness of the resident staff, and have regard to a week ended in each case a day earlier than that given in the heading.

The meteorological data are compiled from returns sent me by Mr. Crowther. They are uncorrected readings, made at 10 a.m. and 4 p.m. The humidity each week is the average of the humidities calculated on each of the thirteen observations of the wet and dry bulbs. The corrected humidity in Mr. Glaisher's report for the quarter is, for the calendar months of January, 26; February, 31; March, 79; Average, 82.

* Including membranous croup. Line 19 includes non-spasmodic croup not returned as membranous.

TABLE F (continued).

Shewing Births, Deaths, from all and certain causes, Home Patients of the Dispensary, admissions to the Fever Hospitals, with some of the Meteorological conditions and the Death-rates from certain causes in Leeds: with the Birth and Death-rates from all causes in the 33 large English towns for each of the thirteen weeks ended June 27th, 1896.

1896.		APRIL.					MAY.					JUNE.				TOTALS OR AVERAGES.
		April 4th.	April 11th.	April 18th.	April 25th.	May 2nd.	May 9th.	May 16th.	May 23rd.	May 30th.	June 6th.	June 13th.	June 20th.	June 27th.		
Total Births	1	226	229	265	224	224	266	232	240	210	258	257	231	239	3,101	
Total Deaths	2	157	159	143	132	136	147	129	160	142	143	138	148	157	1,891	
Under 1 year	3	35	45	32	32	24	41	30	39	42	38	41	47	61	507	
1 to 2 years	4	18	11	9	13	13	17	15	15	11	11	11	5	13	162	
2 to 5 years	5	14	10	14	13	7	9	6	9	11	7	11	9	4	124	
5 to 60 years	6	52	64	48	48	64	52	41	58	55	50	51	53	55	691	
60 yrs. and upwards	7	38	29	40	26	28	28	37	39	23	37	24	34	24	407	
Deaths: Small-pox..	8	...	...	1	...	...	...	...	...	...	...	...	...	...	1
Measles	9	2	4	5	4	3	5	1	4	6	5	4	3	4	50	
Scarlet Fever	10	2	...	...	1	...	...	1	1	...	...	1	1	...	7
* Diphtheria	11	...	2	...	3	...	1	...	1	1	...	1	...	...	9
Whooping-cough..	12	13	14	8	5	3	0	4	4	4	4	4	5	3	79	
Typhus Fever	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	14	2	...	...	...	1	1	...	2	1	1	2	1	...	11
Other or doubtful	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhoea or Dysent.	16	3	2	2	3	1	...	...	4	...	1	2	2	18	38
All seven	17	24	22	16	10	8	13	6	16	12	11	14	12	25	195	
Cholera	18	...	...	...	...	...	...	...	...	...	...	1	...	...	1
Croup	19	...	3	...	2	...	...	...	...	...	1	...	...	...	6
Dis. of Resp. System	20	39	31	29	30	37	35	48	38	37	34	36	28	23	445	
Influenza	21	...	1	3	...	1	...	...	1	1	1	1	...	...	9
Phthisis	22	16	14	8	13	15	9	7	15	13	11	15	12	7	155	
Dis. of Circul. System	23	5	10	8	10	16	15	8	15	6	8	9	13	15	138	
Violent Deaths	24	3	3	5	3	3	6	1	3	6	2	1	9	7	52	
Inquest cases	25	8	12	9	4	12	7	6	9	11	7	6	13	16	120	
Deaths in Pub. Inst.	26	20	18	13	7	16	19	22	22	13	20	13	23	13	219	
Dispensary: visits pd.	27	235	165	232	210	205	236	209	205	194	197	238	269	258	2,853	
Cases admitted to our own hospitals	28	4	7	8	7	8	10	5	8	8	7	9	17	10	108	
Barom. (inches)	29	29.90	29.99	29.94	30.13	29.83	30.21	30.14	29.91	30.21	29.70	29.68	29.82	29.95	29.96	
Attached Ther. °F	30	47.08	53.62	48.38	54.08	52.54	52.77	59.54	58.15	58.85	61.77	63.00	66.15	63.46	56.93	
Dry bulb	31	46.83	53.38	48.02	56.08	51.54	58.54	62.77	57.38	58.02	65.77	66.38	68.00	64.54	58.46	
Wet bulb	32	42.58	47.69	43.15	50.38	44.92	50.23	53.85	51.69	52.38	57.00	59.85	59.69	57.23	51.64	
Humidity	33	71.67	66.23	67.15	67.38	61.92	57.23	56.15	68.00	66.31	59.08	67.38	58.77	63.00	63.82	
Mn. of highest reading	34	50.29	50.71	52.14	61.00	56.14	63.71	69.14	63.14	63.86	72.14	70.86	72.57	70.14	63.22	
„ lowest „	35	36.00	46.14	38.29	44.71	43.43	42.43	46.43	47.71	46.57	50.86	53.14	55.71	52.87	46.48	
„ daily range ..	36	14.29	10.57	13.85	16.29	12.71	21.28	22.71	15.43	17.29	21.28	17.72	16.86	17.27	16.74	
Total rainfall (inches)	37	0.12	0.43	0.53	...	0.21	...	...	0.50	...	1.07	0.93	1.18	0.35	5.32
Wind { Direction ...	38	NW	NW	SW NW	NW	NW	NW	NW SE	NW	NNE	SE	SE	SW	W NW	...	
{ Force 0-6 ...	39	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Amount of Cloud 0-10	40	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Birth-rate (Leeds) ...	41	29.3	29.7	34.4	29.0	29.0	34.5	30.1	31.1	27.2	33.4	33.3	28.7	31.0	30.9	
Death-rate (Leeds) ...	42	20.4	20.6	18.5	17.1	17.6	19.1	16.7	20.7	18.4	18.5	17.9	19.2	20.4	18.9	
Birth-rate (33 towns)	43	31.5	31.0	34.1	32.6	30.9	32.3	30.2	30.2	27.0	32.1	31.6	30.1	30.6	31.1	
Death-rate (33 towns)	44	18.3	20.0	19.0	19.5	18.4	18.5	18.4	18.1	17.0	17.8	16.7	17.3	16.9	18.2	
D. R. lung dis. (Leeds)	45	5.1	4.0	3.8	3.9	4.8	4.5	6.2	4.9	4.8	4.4	4.7	3.6	3.0	4.4	
D. R. W.-cough Leeds	46	1.9	1.8	1.0	0.6	0.4	0.8	0.5	0.5	0.5	0.5	0.5	0.6	0.4	0.8	

The Dispensary returns are furnished me by the kindness of the resident staff, and have regard to a week ended in each case a day earlier than that given in the heading.

The meteorological data are compiled from returns sent me by Mr. Crowther. These are uncorrected readings, made at 10 a.m. and 4 p.m. The humidity each week is the average of the humidities calculated on each of the thirteen observations of the wet and dry bulbs. The corrected humidity in Mr. Glaisher's report for the quarter is, for the calendar month of April, 74; May, 71; June, 66. Average, 70.

* Including membranous croup. Line 19 includes non-spasmodic croup not returned as membranous.

TABLE F (continued.)

Shewing Births, Deaths, from all and certain cause, Home Patient at the Dispensary, admissions to the Fever Hospitals, with some of the Meteorological conditions and the Death-rates from certain causes in Leeds; with the Birth and Death rates from all causes in the 33 large English towns of each of the fourteen weeks ended October 31d, 1890.

1890.		JULY.					AUGUST.					SEPTEMBER.					AVERAGE.
		July 4th.	July 11th.	July 18th.	July 25th.	August 1st.	August 8th.	August 15th.	August 22nd.	August 29th.	Sept. 5th.	Sept. 12th.	Sept. 19th.	Sept. 26th.	Oct. 3rd.		
Total Births	1	256	227	245	230	200	105	213	210	206	219	240	251	262	262	3,348	
Total Deaths	2	132	108	100	174	150	157	168	132	133	125	112	121	105	131	1,983	
Under 1 year	3	45	68	77	80	57	51	57	43	40	30	33	38	20	32	692	
1 to 2 years	4	10	15	15	10	10	14	7	7	8	7	7	6	7	9	138	
2 to 5 years	5	13	9	8	5	13	0	7	10	10	7	5	6	8	8	118	
5 to 60 years	6	37	54	42	44	51	52	57	44	50	51	40	10	38	50	656	
60 yrs. and upwards	7	21	22	24	26	25	28	40	28	25	30	27	31	23	20	370	
Deaths: Small-pox.	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	9	9	7	3	6	6	6	2	5	...	1	1	2	2	1	51	
Scarlet Fever	10	1	1	3	...	...	1	1	2	6	1	1	...	4	3	24
*Diphtheria	11	...	...	...	...	...	2	1	1	2	2	2	1	1	2	14
Whooping-cough.	12	2	6	7	3	5	2	1	...	2	...	3	1	2	3	37	
Typhus Fever	13	...	...	...	...	...	...	...	...	2	3	2	...	...	...	7
Enteric Fever	14	...	1	2	2	...	5	2	4	2	4	...	...	4	4	30
Other or doubtful	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhoea or Dysent.	16	15	27	46	35	31	21	21	6	6	5	1	7	2	2	225	
All seven.	17	27	42	61	46	42	37	28	18	20	16	10	11	15	15	388	
Cholera	18	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1
Croup	19	...	...	...	...	1	2	...	...	...	...	...	...	...	...	3
Dis. of Resp. System	20	21	15	24	20	29	14	20	22	17	17	19	19	16	16	269	
Influenza	21	1	1	...	...	...	...	1	...	...	...	...	...	...	...	3
Phthisis	22	9	10	11	12	11	13	14	6	13	9	3	6	9	14	140	
Dis. of Circul. System	23	1	7	4	11	7	9	16	7	8	15	11	11	9	8	124	
Violent Deaths	24	7	4	5	2	4	6	7	2	3	4	6	4	5	7	66	
Inquest cases	25	13	11	8	7	6	9	11	6	8	11	10	13	8	13	134	
Deaths in Pub. Inst.	26	13	12	19	22	14	17	22	12	21	13	15	10	8	22	220	
*Dispensary: visits pd.	27	294	299	259	219	200	148	197	230	250	234	251	257	280	224	3,342	
Cases admitted to our own hospitals	28	9	11	14	23	22	16	26	34	24	26	16	27	11	18	277	
Barom. (inches)	29	29.82	29.91	30.06	29.80	29.86	29.97	29.98	29.84	29.77	29.72	29.67	29.51	29.28	29.00	29.79	
Attached Ther. F.	30	63.23	65.77	67.38	65.62	62.15	60.08	61.92	61.77	59.08	59.85	60.08	59.08	55.00	54.60	61.12	
Dry bulb.	31	62.40	68.46	66.62	66.69	63.31	59.54	62.92	62.15	58.62	59.00	60.23	58.60	53.77	59.08	61.32	
Wet bulb.	32	54.23	60.54	59.23	59.08	50.69	53.62	56.85	55.62	53.23	56.77	57.62	53.77	50.38	52.46	55.72	
Humidity	33	58.08	62.38	63.38	63.15	65.46	67.00	67.08	65.31	69.38	80.31	84.62	71.02	78.85	77.40	70.03	
Mn. of highest reading	34	60.57	74.14	72.57	71.71	68.14	63.29	66.29	65.71	62.14	61.86	64.57	64.14	57.29	59.86	65.59	
" lowest	35	54.43	55.71	53.57	56.00	51.86	51.29	54.43	54.00	51.00	54.00	54.57	54.29	47.00	47.57	52.56	
" daily range	36	12.14	18.43	19.00	15.71	16.28	12.00	11.86	11.71	11.14	7.86	10.00	9.85	10.29	12.29	13.03	
Total rainfall (inches)	37	0.03	0.20	0.01	0.87	0.31	0.31	...	0.27	0.70	1.41	0.50	0.33	1.42	0.36	6.72	
Wind (Direction)	38	NW	SE	N SW	SW W	NE SE	SE N	N W	NW W	NW W	NW F	SE	SW	N SW	NW SW	...	
(Force 0-6)	39	1	1	1	1	1	1	1	1	1	1	1	1	1	...	1	
Amount of Cloud 0-10	40	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Birth-rate (Leeds)	41	33.2	29.4	31.8	29.8	34.9	25.2	31.5	31.1	29.7	28.4	31.1	32.9	34.0	34.0	31.0	
Death-rate (Leeds)	42	17.1	21.8	21.5	22.6	20.2	20.4	21.8	17.1	17.2	16.2	14.5	15.7	13.0	17.4	18.4	
Birth-rate (33 towns)	43	30.6	31.4	30.1	29.5	31.9	27.5	31.4	30.7	30.5	28.6	30.3	30.0	28.4	33.8	30.4	
Death-rate (33 towns)	44	17.8	19.9	21.4	24.8	24.4	21.4	19.9	18.0	17.4	16.5	15.8	15.1	15.3	15.7	18.8	
D. R. lung dis. (Leeds)	45	2.7	1.9	3.1	2.6	3.8	1.8	2.6	2.0	2.2	2.2	2.5	2.5	2.1	2.1	2.5	
D. R. diarrhoea Leeds	46	1.9	3.5	6.0	4.5	4.0	2.7	2.7	0.8	0.8	0.6	0.1	0.9	0.3	0.3	2.1	

The Dispensary returns are furnished me by the kindness of the resident staff, and have regard to a week ended in each case a day earlier than that given in the heading.

The meteorological data are compiled from returns sent me by Mr. Crowther. These are uncorrected readings, made at 10 a.m. and 4 p.m. The humidity each week is the average of the humidities calculated on each of the thirteen observations of the wet and dry bulbs. The corrected humidity in Mr. Gladstone's report for the quarter is, for the calendar month of July, 73; August, 72; September, 84. Average, 76.

* Including membranous croup. Line 19 includes non-spasmodic croup not returned as membranous.

TABLE F (continued).

Shewing Births, Deaths, from all and certain causes, Home Patients of the Dispensary, admissions to the Fever Hospitals, with some of the Meteorological conditions and the Death-rates from certain causes in Leeds: with the Birth and Death-rates from all causes in the 33 large English towns of each of the thirteen weeks ended 2nd January, 1897, and the totals for the year 1896.

1896.		OCTOBER.				NOVEMBER.				DECEMBER.					TOTALS OR AVERAGES.	YEAR.
		Oct. 10th.	Oct. 17th.	Oct. 24th.	Oct. 31st.	Nov. 7th.	Nov. 14th.	Nov. 21st.	Nov. 28th.	Dec. 5th.	Dec. 12th.	Dec. 19th.	Dec. 26th.	Jan. 2nd.		
Total Births	1	224	239	268	288	252	244	235	255	228	252	234	185	263	3,167	12,573
Total Deaths	2	132	126	116	152	150	169	177	145	156	135	138	145	196	1,937	7,682
Under 1 year	3	36	30	27	35	45	35	52	28	34	40	31	32	38	463	2,120
1 to 2 years.....	4	5	9	13	10	12	13	10	12	17	6	16	9	13	145	634
2 to 5 years.....	5	4	7	4	12	6	10	7	6	8	10	9	12	13	108	509
5 to 60 years	6	49	56	47	62	48	69	66	67	60	50	53	54	84	765	2,767
60 yrs. and upwards	7	38	24	25	33	39	42	42	32	37	29	29	38	48	456	1,652
Deaths: Small-pox..	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Measles	9	2	...	...	3	2	4	3	3	2	2	2	3	5	31	198
Scarlet Fever	10	2	2	3	1	3	3	...	2	4	2	2	3	3	30	72
*Diphtheria	11	...	...	1	...	1	...	1	3	1	...	...	2	1	10	50
Whooping-cough..	12	1	1	...	1	...	4	3	...	4	2	2	2	5	25	247
Typhus Fever.....	13	...	...	...	...	...	...	...	...	1	...	...	...	1	2	9
Enteric Fever.....	14	2	2	2	3	3	...	1	2	4	...	1	1	...	21	77
Other or doubtful	15	...	...	...	...	...	...	1	...	...	...	...	...	...	1	1
Diarrhœa or Dysent.	16	...	...	1	1	2	1	...	...	...	1	1	...	1	8	284
All seven.....	17	7	5	7	9	11	12	9	10	16	7	8	11	16	128	939
Cholera	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Croup	19	...	1	1	...	...	1	...	...	1	2	1	1	...	8	24
Dis. of Resp. System	20	25	24	27	54	28	47	62	37	41	37	33	34	46	495	1,644
Influenza	21	...	...	...	1	...	...	...	...	1	...	1	...	3	6	20
Phthisis	22	8	10	9	10	15	14	18	13	17	9	10	9	15	163	613
Dis. of Circul. System	23	10	16	8	14	15	14	7	13	11	10	7	11	16	152	550
Violent Deaths	24	6	6	3	6	6	5	5	5	5	6	9	9	9	80	267
Inquest cases	25	11	11	8	13	15	20	13	11	12	21	14	16	25	190	616
Deaths in Pub. Inst.	26	19	14	13	21	22	22	13	22	15	13	13	20	41	248	908
Dispensary: visits pd.	27	260	247	244	274	287	360	311	306	271	258	293	292	250	3,653	13,186
Cases admitted to our own hospitals	28	13	20	17	21	11	19	27	21	13	19	25	9	17	232	748
Barom. (inches)	29	29.36	29.94	29.24	29.46	29.98	29.82	29.82	30.27	29.55	29.34	29.46	29.90	29.91	29.69	29.84
Attached Ther. °F...	30	52.16	49.70	46.78	44.15	44.85	47.85	48.54	50.85	47.15	50.46	45.15	44.42	48.69	47.77	53.45
Dry bulb.....	31	50.63	47.03	43.16	40.38	40.92	44.23	44.23	44.00	40.00	43.31	30.38	38.85	43.54	42.89	51.89
Wet bulb.....	32	46.00	44.86	40.09	38.62	38.38	41.77	41.77	41.38	38.38	41.38	34.09	37.33	40.77	40.43	47.72
Humidity	33	71.16	80.38	78.24	83.92	80.62	81.92	81.69	80.77	85.77	85.38	84.62	80.83	79.08	81.54	73.60
Mn. of highest reading	34	55.29	49.86	46.14	43.71	44.86	46.29	46.71	45.14	42.43	45.14	38.14	42.14	40.71	45.58	55.57
„ lowest „	35	43.71	40.86	36.71	34.29	34.43	39.29	38.71	42.29	35.71	39.14	33.29	33.71	37.14	37.04	43.82
„ daily range ...	36	11.58	9.00	9.43	9.42	10.43	7.00	8.00	2.85	6.72	6.00	4.85	8.43	9.57	7.94	11.75
Total rainfall (inches)	37	1.98	0.46	0.62	0.75	0.75	0.46	0.25	0.00	1.42	0.73	0.20	0.33	0.65	8.72	25.24
Wind (Direction) ...	38	SW	SWNW	NW	WNW	NW	WSW	WSW	SE NW	SE	SE	NW	NW	SW	...	...
(Force 0-6)	39	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1
Amount of Cloud 0-10	40	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Birth-rate (Leeds) ...	41	29.0	31.0	34.7	37.3	32.7	31.6	30.5	33.1	29.6	32.7	30.3	24.0	34.1	31.0	30.75
Death-rate (Leeds) ...	42	17.1	16.3	15.0	19.7	19.4	21.9	22.9	18.8	20.2	17.5	17.0	18.8	25.4	19.3	18.79
Birth-rate (33 towns)	43	30.1	31.6	32.6	33.0	32.8	32.1	31.4	31.4	29.2	30.5	31.0	23.0	35.9	31.1	30.78
Death-rate (33 towns)	44	16.7	16.3	17.6	19.7	20.6	20.8	21.3	19.3	19.4	18.9	18.2	17.0	22.3	19.1	18.93
D. R. lung dis. (Leeds)	45	3.2	3.1	3.5	7.0	3.6	6.1	8.0	4.8	5.3	4.8	4.3	4.4	6.0	4.9	4.02
D. R. 7 zymotics do.	46	0.9	0.6	0.9	1.1	1.4	1.6	1.1	1.3	2.1	0.9	1.0	1.4	2.1	1.3	2.30

The Dispensary returns are furnished me by the kindness of the resident staff, and have regard to a week ended in each case a day earlier than that given in the heading.

The meteorological data are compiled from returns sent me by Mr. Crowther. These are uncorrected readings, made at 10 a.m. and 4 p.m. The humidity each week is the average of the humidities calculated on each of the thirteen observations of the wet and dry bulbs. The corrected humidity in Mr. Glaisher's report for the quarter is, for the calendar month of October, 81; November, 84; December, 87. Average, 84.

* Including membranous croup. Line 19 includes non-spasmodic croup not returned as membranous.

TABLE OF INSPECTORS' WORK.

TABLE OF INSPECTORS' WORK.									
		Quarters.				City Total 1896.			City Total 1896.
		I.	II.	III.	IV.				
HOUSE INSPECTION.									
1.	Houses and premises	712	825	1297	1082	3216	OTHER WORK DONE (continued).	I. <td>II.</td>	II.
2.	completely exam-ined on account of	107	179	163	226	666	33 Special examinations of drains by tests ..	451	442
3.	Houses and premises examined	417	1978	1367	1185	6967	34 Defects found by ditto ..	411	379
4.	only as to	185	203	413	371	1172	37 Appointments ..	204	215
5.	Buildings and Offices	424	408	562	623	2014	38 Notices and letters served ..	31	24
6.	Drainage	690	607	583	672	2556	39 Dwelling houses unfit for human habitation closed	2	2
7.	Number of houses wholly or partly examined	4255	4251	4385	4160	17051	40 Dwelling houses rendered fit for human habitation	19	1
8.	Total number of above houses where sanitary defects were found	1406	1386	1564	1547	5903	41 Houses cleaned ..	15	16
9.	Sanitary defects found in above houses	1302	1366	1577	1568	5913	42 Overcrowded houses dealt with ..	23	23
10.	Nuisances, &c.	150	205	229	129	713	43 Defective spouting, &c., repaired ..	4	5
11.	Houses dirty	85	90	120	91	386	44 New middle privies built ..	50	37
12.	overcrowded	108	135	151	159	553	45 Old middle privies repaired ..	53	1
13.	damp or dilapidated	674	700	669	629	2672	46 Privies rebuilt ..	50	4
14.	with defective eave-gutters or fall pipes	41	16	12	6	81	47 Privies converted into trough water closets ..	50	4
15.	badly drained	0	0	0	0	0	48 do. ordinary water closets ..	2	2
16.	without sink drain	2	4	0	0	6	49 Water closets erected ..	4	12
17.	badly lighted	0	0	0	0	0	50 New dry ashpits or tubs ..	4	15
18.	badly ventilated	0	0	0	0	0	51 New trough water closets built ..	25	0
19.	with defective or insufficient closet accommodation	331	851	754	614	3083	52 Pail closets converted into water closets ..	33	5
20.	with dirty closets	791	423	412	571	2140	53 do. altered into privies ..	344	3
21.	with drains, &c., temporarily stopped	275	315	241	289	1110	54 Closets cleaned (lime-washed, &c.) ..	302	23
22.	with other nuisances	578	638	583	440	2239	55 Drains in course of reconstruction ..	465	615
23.	Total nuisances found in houses	3952	347	3324	3054	13517	56 .. of reconstruction ..	1	1
24.	No. of houses in which above nuisances were found	4195	375	3681	3386	15109	57 .. inspected when connection made to sewer	72	741
25.	Street gullies stopped	359	495	596	325	1675	58 Disconnections of house drains effected ..	2	10
26.	Offensive accumulations	209	216	173	225	823	59 Cess-pools filled up ..	0	0
27.	Other outside nuisances	492	418	412	368	1630	60 Houses supplied with town's water	325	305
28.	Total nuisances found	13	23	23	4	63	61 Houses and water closets repaired ..	325	305
29.	Complaints unfounded	1055	872	638	2193	9748	62 Trough and water closets remedied ..	072	975
30.	Additional	2003	1703	1439	1538	6748	63 Other house nuisances remedied ..	344	347
31.	Visits	132	132	99	100	454	64 Total houses for which above work done	2101	202
32.	paid to houses	2758	2832	2161	2047	10295	65 Houses in which all defects found have been remedied	241	397
OTHER WORK DONE.									
33.	Special examinations of drains by tests ..	561	451	443	442	1947	66 Street gullies cleaned ..	23	58
34.	Defects found by ditto ..	413	411	322	379	1555	67 Offensive accumulations removed ..	11	145
35.	Appointments ..	204	204	215	234	857	68 Plutoniums of river or streams remedied ..	3125	2412
36.	Notices and letters served ..	31	31	24	32	148	69 Other non-domestic nuisances removed ..	377	5613
37.	Dwelling houses unfit for human habitation closed	19	1	4	4	19	70 Additional visits paid to inspect work in progress	0	0
38.	Dwelling houses rendered fit for human habitation	115	163	160	112	550	71 Total nuisances abated ..	0	0
39.	Houses cleaned ..	61	62	77	52	252			
40.	Overcrowded houses dealt with ..	23	23	150	14	15			
41.	Defective spouting, &c., repaired ..	4	5	6	3	18			
42.	New middle privies built ..	50	37	24	3	114			
43.	Old middle privies repaired ..	53	1	23	1	78			
44.	Privies rebuilt ..	50	4	2	2	58			
45.	Privies converted into trough water closets ..	50	10	14	2	76			
46.	do. ordinary water closets ..	2	2	2	2	8			
47.	Water closets erected ..	4	12	15	24	55			
48.	New dry ashpits or tubs ..	4	25	0	0	29			
49.	New trough water closets built ..	33	3	0	0	36			
50.	Pail closets converted into water closets ..	344	3	244	38	1330			
51.	do. altered into privies ..	302	23	230	297	1152			
52.	Closets cleaned (lime-washed, &c.) ..	465	615	515	517	2112			
53.	Drains in course of reconstruction ..	1	1	7	127	136			
54.	.. of reconstruction ..	72	741	547	71	1331			
55.	inspected when connection made to sewer	2	10	23	1	36			
56.	Disconnections of house drains effected ..	0	0	0	0	0			
57.	Cess-pools filled up ..	0	0	0	0	0			
58.	Public or private wells abolished ..	325	305	310	33	1073			
59.	Houses supplied with town's water	072	975	779	612	2958			
60.	Trough and water closets repaired ..	344	347	295	317	12716			
61.	Other house nuisances remedied ..	2101	202	1521	200	7730			
62.	Total houses for which above work done	241	397	271	53	1163			
63.	Houses in which all defects found have been remedied	23	58	75	04	160			
64.	Street gullies cleaned ..	11	145	25	104	313			
65.	Offensive accumulations removed ..	3125	2412	2000	243	10774			
66.	Plutoniums of river or streams remedied ..	377	5613	2371	3542	13740			
67.	Other non-domestic nuisances removed ..	0	0	0	0	0			
68.	Additional visits paid to inspect work in progress	0	0	0	0	0			
69.	Total nuisances abated ..	0	0	0	0	0			



JOWETT & SOWRY, Printers and Lithographers, 78, Albion Street, Leeds.

A
SUPPLEMENTARY REPORT
MADE TO THE
URBAN SANITARY AUTHORITY
OF THE
BOROUGH OF LEEDS,
FOR THE YEAR
1896,
AND PARTLY FOR 1897.

BY
J. SPOTTISWOODE CAMERON,
M.D., B.Sc., &c.,
Medical Officer of Health to the Borough.

Leeds :
GOODALL & SUDDICK, PRINTERS AND LITHOGRAPHERS, COOKRIDGE STREET.
—
1898.

SANITARY COMMITTEE,

1895-96.

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„	LUPTON.	„	KNOWLES.
Councillor	AMBLER.	„	LEUTY.
„	BETTISON.	„	SCHOLEFIELD.
„	BOOCOCK.	„	SIMPSON.
„	CARTER.	„	SMITH.
„	CLARKE.	„	VICKERS.
„	GORDON.	„	WEBSTER.

1896-97.

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„	BETTISON.	„	SIMPSON.
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„	GORDON.	„	VICKERS.
„	HANNAM.	„	WORMALD.
„	HAWKYARD.		

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Supplementary Annual Report

For 1896 and partly for 1897.

Part I.—GENERAL.

The report on the health of Leeds, and work of the Department during 1896, was presented to the Sanitary Committee on the 11th of February, 1897, and subsequently, along with tables A, B, E, and F in their several parts, and table I of the Inspector's work, sent to every member of the Council, and to the Local Government Board. As it was impossible to complete table C in time for that report, and as the tables only went to the end of 1896, and the Council like to have figures brought to the end of March, it has been thought desirable to reprint the whole of the tabular matter, along with the additional tables A, B, E, and F, for the first quarter of 1897. In Part II., dealing with special diseases, the figures have, in some cases, been carried to the end of 1897, and, in a few, to the end of the first quarter of 1898.

Table 1, as in previous years, gives a comparison of death-rates from all and certain groups of causes during the 53 weeks of 1896, with several previous groups of years. It was mentioned in the report referred to that the death-rate in the triennium 1894-5-6 (19·1) was below that of any period of three consecutive years on our record—that it was even lower by one per thousand than the average of any three individual years picked out of the whole of the years for which the Registrar-General's statistics are available. It was also pointed out the death-rate of 18·8 for the year 1896, was one death per thousand below that of any previous recorded year, with the single exception of the year 1894—the record year of our statistics.

Table 2 shows how we stood in 1896 in regard to the nine largest towns in the United Kingdom.

Tables 3 and 4 show respectively the deaths at certain groups of ages, and the rates on the estimated population. All estimated populations must, of course, be taken, at a period so far from the census of 1891, with a good many grains of salt. I do not, therefore, attach very much value to the figures given in table 4. The actual deaths in table 3 will, of course, serve for computations after the next census.

Table 5, as formerly, deals with the mortality amongst young children. The first line in that table, being based upon estimated population, has less value than the two subsequent ones.

TABLE 1.
Annual deaths per 1,000 of the estimated population.

	All causes.	Seven zymotics.	Consumption.	Bronchitis, pneumonia, pleurisy.	Other lung diseases, without influenza.
Five years, 1885-89 } 261 weeks	21.16	2.78	1.70	3.93	0.27
Five years, 1890-94 } 261 weeks	21.11	2.51	1.61	4.42	0.31
1892-93 ...	21.07	2.87	1.56	4.14	0.30
1894-95 ...	19.23	2.32	1.52	3.54	0.27
Year 1896 ... 53 weeks	18.79	2.27	1.50	3.78	0.19
1896 increase on '94-5	...	...	...	0.24	...
„ decrease „ '94-5	0.44	0.05	0.02	...	0.08
1896 increase on '85-9	...	...	...	...	...
„ decrease „ '85-9	2.37	0.51	0.20	0.15	0.08

NOTE.—This table is prepared from our own figures, and not from those of the Registrar-General. The death-rate from the seven zymotic diseases excludes “membranous” croup.

TABLE 2.

Showing the Death-rates in the Nine Largest Towns of the United Kingdom, for the Fifty-three weeks ended January 2nd, 1897.

		First quarter of 1896.	Second quarter of 1896.	Third quarter of 1896.*	Fourth quarter of 1896.†	53 Weeks.
Edinburgh	-	17·7	16·7	15·4	17·8	16·9
London	-	19·5	17·9	18·8	18·1	18·6
<i>Leeds</i>	-	18·6	18·8	18·4	19·1	18·8
Sheffield	-	19·4	18·7	20·2	18·7	19·3
Glasgow	-	20·5	20·5	18·6	21·9	20·4
Birmingham	-	21·4	19·9	21·9	20·1	20·8
Manchester	-	23·2	23·6	22·0	21·9	22·6
Liverpool	-	23·8	21·1	22·9	23·1	22·7
Dublin	-	25·3	23·3	23·3	27·6	24·9

* Registrar-General's return for 13 weeks.

† Registrar-General's return for 14 weeks. We made the third the 14-week quarter.

TABLE 3.

Births and deaths registered in the City of Leeds in the four periods ended March 28th, June 27th, October 3rd, 1896. and January 2nd, 1897. Deaths at all and certain groups of ages.

MORTALITY FROM ALL CAUSES AT SUBJOINED AGES.								
1	2	3	4	5	6	7	8	9
1896.	Regis- tered births.	At all ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 60.	60 and upwards.
Estimated population at these ages.		402,449	11,428	38,937	89,708	82,771	157,829	21,776
I. Quarter..	2,957	1,871	458	348	70	89	496	410
II. do. . .	3,101	1,891	507	286	60	92	539	407
III. do. . . (14 weeks)	3,348	1,983	692	256	63	105	488	379
IV. do. . .	3,167	1,937	463	253	91	86	588	456
53 weeks . .	12,573	7,682	2,120	1,143	284	372	2,111	1,652

TABLE 4.

RATES PER ANNUM PER 1,000 LIVING.										
1	2	3	4	5	6	7	8	9	10	11
1896.	Birth- rate.	At all ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 60.	60 and upwds.	25 to 65.	over 65.
I. Quarter..	29·7	18·7	161	35·9	3·1	4·3	12·6	75·6	14·4	98·1
II. do. . .	30·9	18·9	178	29·5	2·7	4·5	13·7	75·0	15·5	96·8
III. do. . . (14 weeks)	31·0	18·4	226	24·5	2·6	4·7	11·5	64·9	13·0	84·2
IV. do. . .	31·6	19·3	163	26·1	4·1	4·2	15·0	84·1	17·0	107·4
53 weeks . .	30·8	18·8	183	28·9	3·1	4·4	13·2	74·7	15·0	96·4

TABLE 5.

Mortality in Children under one year of age during the
53 weeks of 1896.

	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	YEAR.
Calculated per 1,000 of the population under one, estimated to the middle of 1896, on the supposition that the whole population of the city had increased at G.P. at the rate of 1.745 per cent. per annum, which was the rate of increase per annum between 1881 and 1891, and that children bear the same proportion to the population as in 1891	161	178	226	163	183
Deaths under one per 1,000 births registered in same period	155	164	207	146	169
Deaths per 1,000 registered births, the latter averaged during each quarter preceding it, and the average of these for the year ...	148	166	224	149	172
Average rate by last method for five preceding years ...	157	161	218	167	176

Part II.—SPECIAL DISEASES.

The figures in this part of the report are, in several cases, brought up to the end of 1897, and, in a few instances, to April, 1898. The numbering of tables corresponding to those in previous reports has been, on the whole, preserved.

Tuberculosis.

The annual death-rate in Leeds in 1896, from tuberculosis (including scrofula), was 2·14. I have only once before had to report it so low, that was in the unusually healthy year 1894. In the five years 1890-4, including therefore this favourable year, the death-rate from this group averaged 2·39, in 1895 it was 2·35. As compared with the preceding year, the death-rate from this disease was lower (0·16 against 0·29) in the general and undefined group.

TABLE 6.
Mortality from tuberculosis, 1896.

1896.	Tuber- culosis, general and un- defined.	Phthisis.	Hydro- cephalus.	Tuber- culous mening- itis.	Tuber- culous periton- itis.	Tabes mesen- terica.	Scrofula.	TOTAL.
I. Quarter ..	12	155	2	18	5	8	1	201
II. do. ..	18	155	3	18	8	23	6	231
III. do. ..	17	140	8	23	3	28	2	221
IV. do. ..	19	163	2	15	6	14	1	220
Year (53 weeks) ..	66	613	15	74	22	73	10	873
Annual death rate, 53 weeks of 1896 ..	0·16	1·50	0·04	0·18	0·05	0·18	0·02	2·14

It was also lower (1·50 against 1·55) in the lung group. It was the same in the chronic hydrocephalous group. It was lower (0·18 as against 0·20) in the group of tuberculous meningitis, a trifle higher (0·05 against 0·04) from tuberculous peritonitis. It was lower (0·18 against 0·23) from tabes mesenterica, and it was higher in the scrofula group. The 10 deaths attributed to scrofula in

1896 make a rate of 0·02 per thousand, whereas the 2 deaths in 1895 did not bring the rate into the second place of decimals at all.

Diseases affecting the lungs and air passages.

PHTHISIS.

We have seen that the death-rate from phthisis was lower (1·50) than in the preceding year (1·55). In 1894 it had been 1·49; in 1893, 1·70; in 1892, 1·42; in 1891, 1·79; and in 1890, 1·66. The deaths were most numerous in the fourth, least so in the third quarter of the year, as will be seen from table 6.

TABLE 6b.

Shewing death-rates per 1,000 living, under and over the age of five, from all diseases of the breathing organs, including consumption in the 53 weeks of 1896.

	I.	II.	III. (14 weeks)	IV	YEAR.
Under 5 ..	16·28	15·72	8·58	15·95	14·02
Over 5 ..	4·38	4·49	3·07	5·15	4·25
All Ages ..	5·86	5·89	3·76	6·50	5·47

NON-TUBERCULOUS LUNG AFFECTIONS.

From all non-tuberculous lung diseases, exclusive of influenza, the rates were 4·32 in the first, 4·35 in the second period of thirteen weeks, 2·46 in the third quarter, which on this occasion contained fourteen weeks, and 4·88 in the fourth quarter. It will be noticed that as in the phthisis group the first and second quarters had rates nearly identical, the third quarter considerably lower, and the fourth quarter considerably higher, than the preceding quarters. The addition of the influenza deaths makes the second quarter a little higher than the first.

Mortality in children under five. Amongst children under five the first and second quarters had death-rates nearly the same, 15.48 and 15.24 without, and 15.80 and 15.48 with, laryngitis. In the third quarter the children's death-rate from the group fell to 8.07 without, or 8.29 with, laryngitis, while in the fourth quarter the rise from this lung group was only to 15.56—15.40 without, 15.56 with, laryngitis—that is between the rates of the first and second quarter.

From bronchitis, amongst children, the deaths in the fourth quarter were more than double those in the third; those in the first and second being nearly equal, and greater than in the third, but those in the first slightly in excess.

In broncho-pneumonia the disparity in the third and fourth quarters was not quite so great; the rate in the second quarter was equal to that in the fourth; that in the first being a little lower, that in the third still very much below that in any of the others.

From pneumonia, pleuro-pneumonia and pleurisy, which however did not figure so largely in the returns, the third quarter had again the advantage, the death-rate being 1.48. The highest rate was, in the first quarter, 3.03, the second quarter had 2.55, and the fourth quarter 1.98.

The demarcation line between bronchitis, broncho-pneumonia, and pneumonia in young children is not very carefully attended to in certification. A death from broncho-pneumonia might be returned by one practitioner as pneumonia or broncho-pneumonia indifferently, by another as broncho-pneumonia or bronchitis, so that it is not well to lay much stress on small differences in the proportion of these groups, especially in children.

It will, however, be noticed that in the first quarter the rate exceeded the average of the year from bronchitis, broncho-pneumonia, and pneumonia, but was beneath the average of the small group of other non-tuberculous lung diseases, exclusive of laryngitis. If we add laryngitis, however, the group is brought above the average of the year. In the second quarter the rate was above the average in every one of these groups. In the third quarter it was below the average in every one. In the fourth quarter it was considerably above the average from bronchitis, somewhat above the average

from broncho-pneumonia, below the average in the other pneumonic groups, and considerably above the average in the other lung disease group, exclusive of laryngitis. In the laryngitis group it was below the average of the year, but grouping laryngitis with the other non-tuberculous diseases not included in the other groups the combined group was above.

Mortality in those above five years of age. In persons above five the first and second quarters were again close together, 2·66 and 2·74, exclusive of laryngitis, or, including that group, 2·68 and 2·76. The third quarter was again lower, 1·61 and 1·63, whilst in the fourth quarter the rates rose to 3·33 and 3·35. In persons above five the rate in the fourth quarter was double that of the third.

While the average death-rate from bronchitis, in persons over five, during the year was 1·34, it was considerably higher (1·68) in the first quarter; nearly as much lower (1·01) in the second quarter; only half the average (0·67) in the third quarter, and highest of all (2·07) in the fourth quarter. From broncho-pneumonia the average for the year was 0·15. The deaths in the first quarter exactly corresponded with this average, in the second quarter were slightly above (0·19); in the third quarter less than half the average (0·06), and in the fourth quarter again above the average. The drop in the third quarter is the only thing remarkable.

From pneumonia, pleuro-pneumonia, and pleurisy the average rate was 0·94. It was considerably less than the average, 0·73, in the first quarter; nearly 50 per cent. above the average in the second, and below the average in both the remaining quarters, 0·80 and 0·85.

It will thus be seen that in the first quarter the rate was above the average of the year from bronchitis, equal to the average from broncho-pneumonia, and below from pneumonia and pleuro-pneumonia, whilst it remained below, whether we included laryngitis or not, in the remaining group.

In the second quarter the rate was below from the bronchitic, above from the broncho-pneumonic and pneumonic group, whilst it was equal to the average in the remaining lung diseases.

In the third quarter it was only half the average in the bronchitic, less than half in the broncho-pneumonic, but rose nearly to the average from the small group of pneumonia, pleuro-pneumonia, and pleurisy, falling considerably in each of the other remaining groups.

In the fourth quarter it was higher in the bronchitic and the broncho-pneumonic group, lower than even in the third quarter in the pneumonic group, though higher than in the first. The rate was above the year's average in the group of other diseases. It will be noticed that in the laryngeal group the rate, which was a very small one (0.02), was the same in each quarter of the year.

PNEUMONIA.

During the year 1896, 413 deaths were registered from pneumonia. This number includes the deaths certified as from croupous-pneumonia, lobar-pneumonia, "pneumonia"; but not those from broncho-pneumonia, catarrhal-pneumonia, or pleuro-pneumonia. From the latter (pleuro-pneumonia) there were 15 deaths. Of the 413 from "pneumonia" five occurred in the General Infirmary amongst persons not having any fixed abode in Leeds, five occurred in the Leeds Workhouse amongst persons resident there; cases sent in to the workhouses for treatment being referred to the district from whence they came. Two occurred in the Hunslet, one in the Holbeck, and one in the Bramley Workhouse, under similar circumstances. Four deaths occurred in lodging houses (one in each) in the North registration district, two in separate lodging houses in the West, one in the South-East, and one in Holbeck. Two deaths occurred in the Gaol (Wortley district), one in a boat (South-East), and one in a caravan (Bramley district). These twenty-six cases are therefore left out in table 7, except in the columns dealing with age, sex, and duration of illness, that is columns 2 to 10. In the last of these there are gaps, one in the North district, where in one case no information as to duration of illness could be obtained, four in the West, due to want of information about patients in the General Infirmary, and one in the South-East (canal boat). In the report for 1895 an abbreviated account of the house conditions of 254 out of the 275 fatal cases

was given (p. 29), but the usual information as to age, sex, duration of illness, and the more complete details as to house conditions were omitted, along with the table usually printed. All these particulars for each year are contained in manuscript tables, but I propose in my report, for this occasion, to combine the tables for 1895 and 1896, and the combined table will be found on page 14. From time to time I shall give the information as to differences between the two years.

Age incidence. During the two years 1895-6 there were 275 and 413 deaths respectively, in all 688 deaths registered from pneumonia. Of these 80 were children of less than a year old (35 in 1895, 45 in 1896), 136 were between the ages of one and five years (71 of these deaths were registered in the fifty-two weeks of 1895, and 65 in the fifty-three weeks of 1896). The children under five, who died of pneumonia in the 105 weeks, were thus 216.

Of the whole pneumonia deaths, 11.63 per cent. were in children under one, the proportions in the separate years being 12.73 in the earlier, 10.90 in the later. Although the actual number of deaths was fewer at this age in 1895 than in 1896, the proportion which they bore to all the deaths from this cause was greater. The 136 deaths between one and five were equivalent to 19.77 per cent. of the whole (25.82 in the earlier, and 15.74 in the later year). In this case the actual number was greater in 1895 than in 1896, the reverse of the relationship at the earlier age.

Between five and fifteen, the pneumonia deaths were 23, or 3.34 per cent. of the whole (the percentages in the two years separately were 2.18 in 1895, 4.12 in 1896). Between fifteen and twenty-five 7.56 per cent. of the pneumonia deaths occurred, the proportions to the whole being, 7.64 in 1895, and 7.51 in 1896. Between the age of twenty-five and sixty, 41.44 per cent. of the deaths occurred. The deaths at this age were only 36 per cent. in the earlier, but rose to 45 per cent. in the later, or year of heavier mortality. The actual deaths at this age in 1896 were 186, nearly double those in 1895, which were 99. After sixty, the deaths formed 16.28 per cent. (they were 15.64 in 1895, 16.71 in 1896).

The deaths in 1896, at each age group, except from one to five, were more numerous than in the earlier year. The differences were most marked between five and fifteen, and twenty-five and sixty.

Considered in proportion to the estimated population at each age, as given in table 3, the death-rate under five was 3.13 in 1895, and 3.88 in 1896, an average for the two years of 3.50. Between the ages of one and five it was 1.86 in the earlier, 1.64 in the later year, an average of 1.75. It fell at the next age period (five to fifteen), to 0.07 in 1895, and 0.19 in 1896, the average being 0.13. From fifteen to twenty-five, the age of adolescence, it was 0.26 in the earlier, 0.37 in the later year. In the years of more mature life (twenty-five to sixty), the death-rate was 0.64 and 1.16, average 0.90. It rose in those above sixty to 2.02 and to 3.12, average 2.57. The mortality from this disease, at all ages, was equivalent to 0.70 in 1895, 1.01 in 1896, an average of 0.85.*

Sex incidence. Of the 688 deaths, 63.8 per cent. were those of men or boys, 36.2 of women or girls. The corresponding proportions were 62.5 and 37.5 in 1895, and 64.6 and 35.4 in 1896. It will thus be noticed that while the deaths were fewer in the earlier year, they were also fewer in proportion amongst men or boys. In 1894, 61.9; in 1893, 55.4; in 1892, 62.6; and in 1891, 59.1 per cent of the deaths were those of men or boys.

Time lost before we heard of case. The duration of illness in the 676 deaths, before the death came to our knowledge, was 16.4 days, varying from 12.2 in Kirkstall to 18.1 in Hunslet. This cannot be regarded as the actual duration of pneumonia, the information as to deaths being received from the Registrar the Monday following the registration of the death. It would be interesting to give the actual length of illness, but if printed in the table the information would not correspond to the information given in the same column of the other tables, the object of which is not so much to ascertain the length of illness, as the period that has elapsed before the case has come to our knowledge.

* The averages given here are the arithmetical means, and not quite accurate, as the second year had fifty-three weeks. The differences, however, may be neglected.

TABLE 7.

Pneumonia.—Deaths and Death-houses.

One hundred and five weeks ended January 2nd, 1897.

REGISTRATION DISTRICT.	AGES OF CASES.						SEX.		DAYS FROM ATTACK TILL DEATH HEARD OF.	AT SCHOOL.	HOUSES.		DENSITY OF POPULATION.		DRAINAGE.										CLOSETS.																							
											BACK TO BACK, &c.	THROUGH.	IMMATES.	ROOMS.	DISCONNECTED.	NOT DISCONNECTED.	INSIDE.					OUTSIDE.		W.C.			PAIL.	M.																				
																						FALL PIPE.	OTHER.	INSIDE.	OUTSIDE.	F.V.			F.V.	INSIDE.	OUTSIDE.																	
																																					T.	C.	T.C.	D.	T.	C.	T.C.	D.	D.	C.	T.	D.
COLS. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35														
NORTH	6	20	6	11	53	22	80	38	16.5	5	65	28	519	334	29	60	58	1	29	1	1	1	5	...	61	24	17	...	1	3	24	46	19	...														
WEST	14	37	2	13	52	27	52	53	16.3	4	96	35	723	553	63	68	60	4	63	4	...	5	10	...	65	29	17	...	8	6	55	34	27	1														
SOUTH-EAST	3	5	1	4	34	8	42	13	17.3	1	33	19	242	173	23	28	27	...	23	1	3	...	2	...	39	7	12	...	...	...	11	26	10	5											
HUNSLET	33	41	4	7	55	10	97	53	18.1	5	117	30	804	503	56	91	16	...	61	...	3	...	6	...	108	29	54	...	3	9	32	48	55	...														
HOLBECK	1	8	3	5	18	7	24	18	14.4	2	33	7	214	150	14	25	22	1	16	...	2	...	2	...	31	7	3	...	1	1	8	18	12	...														
WORTLEY	9	13	3	7	32	17	53	28	16.3	4	52	20	348	274	23	46	45	2	22	...	3	...	5	...	55	11	7	...	...	3	10	15	44	...												
KIRKSTALL	4	5	3	2	20	12	23	23	12.2	4	23	23	248	227	22	24	19	2	24	1	3	2	12	...	36	8	6	...	5	4	14	2	21	...														
BRANLEY	7	2	...	1	6	3	13	6	16.5	...	9	9	97	70	10	6	5	2	9	...	...	...	2	...	12	5	2	...	...	1	...	...	17	...							
CHAPELTOWN	3	5	1	2	15	6	15	17	14.9	1	17	15	171	180	16	16	5	...	26	1	4	...	23	...	18	12	16	...	6	13	8	...	5	...														
OSMONDTHORPE													
TOTALS	80	136	23	52	285	112	439	249	16.4	26	445	186	3366	2474	256	364	327	12	273	8	19	8	67	...	415	132	134	...	24	40	162	189	210	...	6													

T.—Trapped and then going directly into drain. C.—Cut off over an outside gully. T.C.—Same, plus an inside trap. D.—Directly connected with sewer.
 F.V.—Sole pipe continued full size above the eaves. T.W.C.—Trough water closet. M.—Midden. See note and text.

NOTES TO PNEUMONIA TABLE.

The information in this table (except under head of density of population) refers to "death-houses," the facts about the same house being repeated for every fatal case which occurred in it.

Days from attack till heard of. This column gives, for each district, the average length of time from the commencement of the symptoms to the date when information of the death reached our office. The numbers, however, refer only to 676 cases instead of 688, information not having been completely obtained in 12 cases—1 in the *North* (Workhouse), 9 in the *West* (Infirmary 8, Liberal Club 1), and 2 in the *South-East* district.

Houses. The 445 houses in column 12 include 408 back-to-backs, 12 "salt pies," and 25 single houses without aperture in the rear wall. Of the latter, 6 occurred in the *Hunslet*, 4 each in the *Holbeck*, *Wortley*, and *Bramley*, 3 in the *North*, 2 in the *South-East*, and 1 each in the *West* and *Kirkstall* districts. The "salt-pies" occurred, 6 in the *West*, 2 each in the *North* and *South-East*, and 1 each in the *Kirkstall* and *Chapeltown* districts. The remaining 186 (making up the 631) were through houses. Of the actual houses, 402 were back-to-back. The 6 two-case houses were, 2 in the *West*, 1 each in the *North*, *South-East*, *Hunslet*, and *Holbeck* districts, and were all back-to-backs.

Density of population. The number of inmates or rooms is not re-counted where a second case occurred in the same house. The figures given deal with 625 houses in which 631 deaths occurred.

Drainage disconnection. Houses containing water-closets, with soil-pipes not properly ventilated, are included amongst those not disconnected. Two hundred and fifty-six houses were disconnected, 334 not disconnected, and 11 had no drain. The corresponding actual houses were 254, 360, and 11.

Sink wastes. Eleven death-houses had no sink. Of these, 4 were in the *North*, 1 in the *South-East*, 1 in *Holbeck*, 3 in *Wortley*, and 2 in the *Bramley* district. They were all single-death houses. There was more than one sink in 93 death-houses, corresponding to 92 actual houses, the actual number of extra sinks being 96, increased to 97 by counting as in death-houses.

Other inside drainage. Every exit of waste water from the house to the drain, other than the sink, is included in these four columns, but many houses had no other inlet to the drain. These columns, consequently, will not balance the number of houses.

Outside drainage. The last remark also applies to columns 28 and 29. Columns 26 and 27 (fall-pipes) will balance if 18 houses in the *North*, 37 in the *West*, 6 in *South-East*, 10 in *Hunslet*, 2 in *Holbeck*, 6 in *Wortley*, 2 in *Kirkstall*, 1 in *Bramley*, and 2 in *Chapeltown* district, which had no fall-pipe on the house itself, be added. No second fall-pipe on the same house is counted.

Closets. Nine (all single death-houses) had 9 extra conveniences; 1 in the *Chapeltown* district had an additional F.V. closet. In the *West* district a house under not F.V. had another of the same kind. Seven houses (entered under F.V.) had also an outside W.C. in addition. Of these, 2 were in the *West*, 1 in *Holbeck*, 1 in *Kirkstall*, and 3 in *Chapeltown* district.

School attendance. Twenty-six only of the 631 cases of which we have the complete information, were in attendance at school at the time of the attack. The fifty-seven of which we have no information, were principally hospital and lodging house cases, and fifty-six of them were not of school-going age. The 23 deaths between five and fifteen are therefore fewer than those actually at school.

Through houses, etc. In the supplementary report for 1895, page 29, I dealt with 254 pneumonia death-houses, of which 31·1 per cent. were through houses, and 68·9 per cent. not throughs. These houses, however, included ten lodging houses, all throughs, in which the patients might be regarded as birds of passage. If we deal only with ordinary dwelling houses, the percentages become 28·3 and 71·7, which, therefore, nearly correspond with those of the preceding year, 1894 (28·1 and 71·9).

In 1896, leaving out the 16 untraced from public institutions, 2 in caravan or boat, and 8 in lodging houses, in all 26, the remaining 387 consisted of 117 throughs and 270 not throughs, or in the proportions of 30·2 and 69·8 per cent., a slightly larger proportion of throughs than in the preceding year, when the lodging houses are not counted in the former year. This counting of the lodging houses in 1895 was a departure from our previous procedure.

Taking the two years together, of the 631 houses left out of the 688, after institutions and lodging houses, &c., are deducted, 186 (or 29·5 per cent.) were throughs, 445 (or 70·5) not throughs. The latter consisted of 408 (64·7) unadulterated back-to-backs, 12 (1·9) "salt pies," and 25 (4·0) single houses, without any ventilating aperture in the rear wall.

Inmates and rooms. The 631 case-houses, dealt with in the years 1895 and 1896, correspond to 625 actual houses containing 2,474 rooms and 3,366 inmates, being an average of 3·96 rooms to a house, 5·39 inmates to a house, and 1·36 inmates to a room. The number of persons per house at the census was 4·66. The houses dealt with, therefore, had more occupants than is usual in Leeds.

Sink wastes. Of the 631 case-houses, examined during the two years, 620 had sink drains, 11 had none, being without drainage of any kind inside. Of the 620 with sinks, in 8, or 1·27 per cent. of the whole 631 (but 1·29 per cent. of the 620), the sink pipe was not in any way separated from the drain. In 276 there was an ordinary S trap under the sink, that is in 43·74 per cent. of the 631 (and 44·51 of the 620). In a single case there was simply a box-trap, 0·16 per cent. In 50 there was both an S trap and a box-trap, or in 7·92 per cent. of the 631 (or 8·07 of the 620). If we add the 11 houses without sinks to those faulty, we add 1·74 per cent. of the 631. The houses, therefore, in which disconnection was not effected, were 54·03 per cent. of the 620, or counting the 11 without sink, 54·83 of the 631.

Disconnection was effected in 12 by cutting the sink pipe off, outside the house, and in 273 by doing the same with the addition of an inside S trap. These figures correspond respectively to 1·90 and 1·94, and 43·26 and 44·03 of the 631 and 620 houses, or, together, to 45·16 of all the houses examined, or 45·97 of those with sinks.

Other inside drainage. Of drains inside the house, other than sink pipes, 19 were simply trapped, 8 were cut off, 67 cut off with an S trap. In 40 death-houses with inside water-closets, the soil-pipe was not carried full size above the eaves.

Disconnection of drains. Of the 631 houses examined, 11 had no inlet to the drain from the inside of the house, 364 had some drain not cut off, or the soil-pipe of some inside water-closet was not carried full bore above the eaves. In the remaining 256 every waste-pipe was cut off from the sewer. These latter formed 40·57 per cent. of the 631, and 41·29 of those with inside sinks. The 11 without drain of any kind formed 1·74 per cent. of the larger number.

The percentage did not differ in the two years we are dealing with. Of the 244 case-houses in 1895, 59·43 had either no drain, or were not disconnected from the sewer, and 40·57 were properly cut off. In 1896, dealing with 387 case-houses, the percentage was as follows : 59·43 and 40·57.

Closet accommodation. Of the 631 case-houses, all had closet accommodation of some kind. Sixty-four had inside water-closets. Of these, 24 had every water-closet in the house F.V., 1 of the 24 having two such closets, 7 having each an additional outside w.e. Forty had water-closets inside the house, of which the soil-pipe was not fully ventilated, 1 of these 40 had 2 such "not F.V." closets. There was no other closet of any kind to discount.

The numbers, therefore, as given in the table for the two years are as follows: 226 houses on the ordinary water-closet system, or 35·82 per cent. Of these, in 24 (or 3·80 per cent. of the whole) the soil-pipe was carried the same size above the eaves. In 40 (or 6·34 per cent.) the soil-pipe of the inside water-closet was not properly ventilated. In 162 (or 25·68 per cent.) the convenience was an ordinary water-closet outside the house.

In 189 (or 29·95 per cent.) the closet was of the latrine kind, in 210 (or 33·28 per cent.) it was a midden, in 6 (or 0·95 per cent.) it was a pail.

The number of ordinary water-closet houses was therefore slightly below the average found in the whole town in 1893.* The number of trough closets was in excess, whilst the number of houses with middens and pails was below the average of the town at that time.

General sanitary conditions. It will thus be seen that, in the 631 case-houses examined in the two years, only 256 (or 40·57 per cent.) could be regarded as satisfactory in regard to drainage. These 256 were further diminished because 6 of the houses, 1 in 1895, and 5 in 1896, were dirty; 16 (5 in 1895, and 11 in 1896; one of the latter, however, counted amongst the dirty houses) were over-crowded, that is had three or more persons per room, including sitting rooms, kitchens, etc.; 11 had a midden not more than three yards distant (4 in 1895, 7 in 1896). If these 32 houses be taken from the 256, it leaves only 224 of the 631 (or 35·5 per cent.), as to whose sanitary condition no exception was taken by the inspectors.

* Annual Report for 1893, p. 163, and note.

PLEURO-PNEUMONIA.

It has not been thought necessary to print the full table for pleuro-pneumonia, as the numbers are so small. The conditions, however, will be found, on reference to Table 25, briefly as follows:—The houses examined in the two years was 20. Eleven (or 55·0 per cent.) were through; 9 (or 45·0 per cent.) not through. The drainage was entirely disconnected in the way described in a previous paragraph, in 10 (or 50 per cent.); it was not so in 10 (or 50 per cent.). Thirteen (or 65 per cent.) of the houses were on the water carriage system. Of these, however, there were inside water-closets with F.V. soil-pipes in 1 (or 5 per cent. of the whole), and with soil-pipes not F.V., 1 (or 5 per cent.). There were ordinary water-closets, but outside the house in 11 (or 55 per cent.), trough water-closets and middens respectively were 2 (or 10 per cent.), and 5 (or 25 per cent.).

Seven commoner zymotic diseases.

SMALL-POX.

Two cases only were reported as occurring within the borough during the year 1896, and none during 1897, up to end of the third quarter. Both these cases were indirectly connected with the outbreak at Gloucester. The illness of a third patient came to our knowledge. He probably received his infection from one of these two, but as his illness occurred in another town, it does not come, properly speaking, into our statistics. The first case occurred in the Holbeck Ward—Holbeck Registration District. The patient was a man of thirty-five, a stoker, during the winter months, at one of our Corporation gas works, but out of work at the time. The first information of the case reached us by telephone on the afternoon of April 9th. We removed the patient to our small-pox hospital (the wooden building at Manston Hall), where, the attack having been a confluent one, he died on the 14th.

On making enquiry as to the origin of his illness, we learnt that the man had gone over to Bradford on the 23rd of March, 1896, to see a brother who had been at Gloucester, and had been taken ill on his return to Bradford. Our patient was not aware, when he went, of the nature of the disease from which his brother was suffering.

The brother died in the Bradford Hospital on March 26th. The Bradford authorities had disinfected the house on March 24th. On the 24th I received from Dr. Evans, of Bradford, word of the visit to Bradford of our man, his wife, and child, and the same day (24th) we removed his, his wife's, and his child's clothing for disinfection, and stoved the house. We stoved four rooms—that is all the rooms—with sulphur dioxide, and removed 59 textile articles for disinfection by high temperature steam. Our patient went again to Bradford on the 27th to the funeral, but stated that he had not entered the house, and only saw the outside of his brother's coffin. There is some doubt as to this, as we were told he was at the house on the 26th and 28th as well. On the 2nd of April, the eleventh day from his first, and seventh from his acknowledged second visit to Bradford, he felt ill. The next day he was worse, complained much of his back, but did not stay in bed. On the 6th he went to see a doctor, but not finding him in, adjourned to a public house, and thence to another. At both he had some whisky. The next day, April the 7th, the eruption appeared. The appearance of the eruption was on the fifteenth day from his first visit to Bradford, the twelfth day from his second. The eruption, therefore, appeared exactly a fortnight after his single exposure to the direct infection.

This man's family consisted of his wife, four children, aged from nine months to six years, and two lodgers—that means eight in all. The cottage contained four rooms. The sink in the basement was not disconnected from the sewer. The house was a back-to-back one, somewhat dirty. The size of the room in which he was taken ill was 14ft. by 12ft. by 8ft. 6in. The closet outside the house was a water-closet, a yard away, used by two families. The ashpit, which was in good condition, was at the same distance, and used by four houses.

The day the patient was removed (April 9th), all the members of the family, including the lodgers, were taken to Mauston Cottages, where they remained till April 24th. Meantime all textile articles in the house, to the number of 722, were removed and steamed, and the walls of the house lime-washed. With the exception to be presently mentioned, we know of no other case of

small-pox that could be attributed to infection from this man or his house.

On the 8th of May a case was reported to myself personally, as possibly small-pox. I visited, and ordered the patient's removal the same afternoon to the wooden hospital at Manston. This patient, who was a traveller for a wholesale clothier, had been in Birmingham, at the Victoria Hotel, on the 22nd and 23rd of April, where he came in contact with another traveller, who had come from Gloucester. He also travelled, we were afterwards told, on Friday, the 24th, to Leeds with a gentleman who had come from Gloucester. This, however, is possibly a variant of his statement to me about his meeting this gentleman in the hotel. The patient felt out of sorts, had some nondescript pains in the head, back and limbs on the 2nd of May, and was sick on the 4th, notwithstanding which he travelled on to business at Glasgow, stayed at the Union Hotel, and was visited by a medical man, who pointedly asked him whether he had been in Gloucester, and being told "No," allowed him to suppose that the disease was influenza. An eruption appeared on the 6th, and he returned to Leeds on that day.

Counting April 22nd as the first possible contact with an infective person, May the 2nd, on which day he was taken ill, was the eleventh, and May the 6th, on which day the eruption appeared, the fifteenth day from such contact. The incubation history is less distinct than in the other case, as there is the possible indirect exposure to infection on three occasions.

In his house, which contained six rooms, there were, in addition to the patient, six persons—his wife, and five children from ten months to eight years of age. All six went to one of the isolation cottages at Manston on the 8th of May, and remained there till May 25th. The house was disinfected in the ordinary way.*

* The disinfecters take credit for stoving nine rooms with sulphur, and washing the walls, in the case of three, with HgCl_2 . In our house register we only count habitable apartments; the disinfecting staff count closets and passages, of which latter there were six. Nine were lime-washed. Altogether we put through our apparatus 765 textile and other articles from this house, and disinfected in the same way 185 articles of clothing for the men employed in cleaning down and disinfecting the house. In addition, his samples were disinfected at our suggestion by the authorities in Glasgow.

The third case, as already said, did not occur in Leeds. It is dealt with here, as he probably received the infection at our hospital. The correspondence which follows shows: (1) How frankly Medical Officers of Health communicate with one another about suspicious cases; (2) How difficult it is to get accurate statements from some of our patients. I express here, publicly, my obligations to Dr. Sadler for help rendered readily on all occasions.

On the 27th of April, 1896, Dr. Sadler, of Barnsley, wrote:

"A man (Daniel Leslie, aged 18), arrived here to-day from Leeds with a well-marked eruption of small-pox, and was at once removed to our hospital. He tells me that he has been painting and lime-washing the small-pox hospital at Manston, near Leeds, and though never vaccinated, was set to lime-wash the interior of the mortuary, in which a small-pox corpse had been placed a few days before. He was engaged at the hospital from April 13th to April 20th, or thereabouts, began to feel ill April 24th, and the eruption appeared on April 26th. He says that he was lodging at the house of a man named Eckhurst, calling himself "a specialist in skin diseases," in Cross Grafton Street, at the top of Briggate (number unknown) who sent him back to Barnsley with his father, or, at any rate, allowed him to travel, by rail of course. I am told that the father, who had been vaccinated, and promised to be re-vaccinated, expressed his intention of going back to Leeds to-night or in the morning. If I can get him to stay here I will, but it would be well to have him looked up in case he slips through our fingers."

This letter was received and answered on the 28th. After thanking Dr. Sadler, I went on:

"I find that this lad began his work at Manston on Monday, the 13th. The painter, who was doing the outside of these buildings, had strict instructions from the Engineer's Department not to allow any man to enter the buildings without the consent of the Resident Medical Officer or myself, and neither he nor I were aware that any of the men employed had been inside the building. There has only been one small-pox patient, in the large pavilion for 28 patients, during the last eleven months, and he was only in hospital from the 9th to the 14th, on which latter day he died. He was placed in the mortuary on the 14th, and buried on the 16th, after which our own (vaccinated) men washed down the floor, walls, and tables with corrosive sublimate solution, and afterwards stoved with sulphur before the whitewashing of the mortuary on the 20th. It would appear, therefore, if our hospital was the source of infection, as if the exposure had been at the very latest on the 13th. I learn that the patient there was troublesome, and the nurse tapped at the window to one of the painters working outside, and he foolishly went inside the door, although he did not stay, and she sent him for another nurse to come to her assistance. I suppose

she felt she could not leave to go to the telephone, but she did not intend him to come inside. We do not, however, know that this was Leslie. You say the eruption appeared on the 26th, and that the eruption was well marked on the 27th. This makes the period from the 13th to the 26th short enough, and opens up the question whether the "skin specialist" may have had other cases of small-pox under his treatment. This man we cannot find. There is no Cross Grafton Street, but we have searched for an Eckhurst in Grafton Street and the streets which cross it. There is no Eckhurst in any directory we have, and we have not been able to find him in the Burgess list, but shall continue to search. Do you think we have got the right name? Certainly we have not got the right address. The infection from the mortuary seems to have been out of the question, and the foreman seems to think that Leslie was not employed about the small-pox hospital itself, but only about the administration. The whole place was disinfected and cleansed after the previous case in May last. The other information given to you seems to be correct, although the inference the patient drew about the mortuary was evidently wrong. Leslie *père*, we understand, was over to-day, and has gone back to Barnsley. I will let you know as to further developments.

P.S.—Since this was written (6 p.m.) have learned that Eckhurst lives in Cross Belgrave Street. The two Leslies took rooms on Friday, went there on Saturday 25th; that day (Saturday night) Daniel had eruption on forehead, foul tongue, 'did not complain of pain in back'; next day (Sunday) stayed in bed, showed Eckhurst arm (one spot), and hands (several spots). E. gave purgative, and father gave brandy and water. Father working at Dyson's, watchmaker, and lodging at Eckhurst's."

On April 29th Dr. Sadler wrote :

"Daniel Leslie says that he was employed on April 13th in painting the outside of the ward occupied by a small-pox patient, but was not the man who answered the nurse's signal. He believes that a former porter in the Bradford small-pox hospital (and therefore probably protected) was the man who went to the door. I quite agree with you that the mortuary cannot be blamed now that the date when it was limewashed is fixed. This Leslie could not do from memory. Of course there may have been external infection, and to-day I have ascertained that from April 7th to April 25th he was lodging at Mrs. Borthwick's, 10, Brunswick Street, Leeds, removing to 7, Cross Belgrave Street (not Grafton Street) on the latter day. His father corrected the error by telegram last night. The eruption was papular on Monday, to-day vesicular, and rather confluent on the face, discrete on the arms, legs and trunk; all I think compatible with infection on the 13th. I am sorry to have given you a wrong address in the first instance, but as you will see by the enclosed telegram, I got the father to correct it as soon as possible."

Copy of telegram enclosed. "Handed in Leeds office, 7.44 p.m. Received Barnsley, 7.48 p.m. April 28th, 1896. To Dr. Sadler, Barnsley. Mr. Eckhurst, 7, Cross Belgrave Street, Leeds."

Cameron to Sadler—extract from letter, May 2nd.

"No special developments since I wrote. The mistake about the address was not yours, but the patient's, and did not cause very much trouble. We learn that Daniel Leslie was working at the Fever Hospital on the 10th and 11th. His mate, Dykes, was quite well yesterday, so that I am in hopes that we shall have no more here. Father went to Barnsley yesterday. If he returns we shall keep an eye upon him, and I daresay you will be looking out for special developments. I gave him leave to carry on his work this week after disinfection, but laid an embargo on his doing so next week, as one would expect, if he has contracted the disease, to see some sign of it between now and Tuesday."

In connection with this case, on the 29th of April we disinfected the clothing of Mr. Leslie, the father, who had a bath at the disinfecting station, and also 55 articles, chiefly textile, from the house of Mr. Eckhurst. The next day we again disinfected 27 articles for Mr. Leslie, and on the 12th of May eight more. We heard of no case arising out of this one.

MEASLES.

Measles, which caused 136 deaths in the 52 weeks of 1895 (see annual report, with supplement, page 33), was credited with 198 in the 53 weeks of 1896. Of these, 191 were in children under the age of five, and 7 in those above that age. The numbers were 64 and 2 in the first, 50 and blank in the second, 50 and 1 in the third, and 27 and 4 in the fourth quarter of the year.

In the first quarter of 1897 the deaths were 34, all in children under the age of five. In the second 25, also all of juveniles; in the third 22 and 1; rising in the fourth quarter of 1897 to 77 and 6. The outbreak was so marked at the end of 1897, that it was deemed advisable to ask the School Board to close the infant departments of the Quarry Mount, Woodhouse Street, Queen's Road, Belle Vue Road, Sheepscar, and Savile Green (mixed and infants) Schools. The managers of the Holy Rosary and St. Michael's, Meanwood Road, denominational schools also closed their infant departments.

Comparison with other years. Disregarding age, the 136 deaths in 1895 had been equivalent to a death-rate of 0·13 as against 0·75 in 1894, 0·90 in 1893, 0·20 in 1892, 0·39 in the

triennium 1890-2, and 0·57 in the quinquennium 1885-9. The average of these rather varied mortality rates for the eleven years, 1885-1895, was therefore 0·53. During 1896 it was 0·48, slightly below the average of the previous years. During 1897, although 0·81 in the fourth quarter,* the average for the year was 0·41.

Time incidence. The measles death-rate was 0·66 in the first, 0·50 in the second, 0·47 in the third, and 0·31 in the fourth quarter of 1896. In the three early quarters of 1897 it was 0·33, 0·25, and 0·23 respectively. Unfortunately, in measles the death-rate is the only reliable indication as to presence of the disease, and the disease is one which notoriously varies from time to time.

Although notification was not compulsory, we had heard during life of 254 cases† in the 52 weeks of 1895. One hundred and two in the first, 50 in the second, 36 in the third, and 66 in the fourth quarter. During 1896 the cases heard of during life† were as follows:—In the first quarter, 56; in the second, 142; in the third (fourteen weeks), 162; and in the fourth, 102. During the earlier quarters of 1897, the numbers heard of in the same way were 86, 41, and 24. At the end of the third quarter the disease was again becoming prevalent, and during the fourth no fewer than 447 cases were investigated. During the first quarter of 1898 we heard of 69 cases.

Age of fatal cases. Table 10 deals with 334 deaths, which were registered in the 105 weeks ended January 2nd, 1897. Of these all but one were those of children under fifteen; 24·3 per cent. of the whole group (22·1 in 1895 and 25·8 in 1896) were those of infants less than one year; 71·6 per cent. (72·8 in 1895 and 70·7 in 1896) were those in children between one and five years of age; 3·9 per cent. (4·4 in the earlier and 3·5 in the later year) were those of children between five and fifteen. The remaining 0·3 per cent. (which ranked as 0·7 in 1895 but as *nil* in

* In the first quarter of 1898, the death-rate from measles fell to 0·56.

† Including recoveries in "death-houses."

TABLE 10.

Measles.—Death-houses. One hundred and five weeks ended January 2nd, 1897.

REGISTRATION DISTRICT.	AGES OF CASES.						SEX.		DAYS FROM ATTACK TILL HEARD OF.	AT SCHOOL.	HOUSES.		DENSITY OF POPULATION.		DRAINAGE.										CLOSETS.									
	0-15-25-60-60+						M.	F.			BACK TO BACK, &c.	THROUGH.	INMATES.	ROOMS.	DISCONNECTED.	NOT DISCONNECTED.	SINK.				OTHER.		FALL PIPE.		OUTSIDE.		W.C.		T. W. C.		M.			
																	T.	C.	T.C.	D.	T.	C.	T.C.	D.	D.	C.	T.	P.	INSIDE.	OUTSIDE.	F. V.	N. O. T.		
COLS. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
NORTH	13	40	...	1	...	...	23	26	14-3	4	49	5	306	176	16	38	38	1	15	...	...	2	...	27	15	5	...	...	...	8	26	19	...
WEST	16	44	2	35	27	20-5	4	48	14	363	208	26	36	33	1	27	1	3	1	2	...	36	11	2	...	1	1	20	19	21	...
SOUTH-EAST	7	28	...	...	...	...	21	14	19-2	3	30	5	210	97	21	14	14	...	21	...	...	...	...	23	4	5	...	1	...	4	23	3	4
HUNSLY	22	82	2	...	...	...	64	42	17-8	10	81	25	574	316	51	55	50	...	56	...	...	4	...	74	24	36	...	2	5	15	44	39	1
HOLBECK	5	9	...	...	...	...	13	1	15-3	...	10	4	78	41	8	6	6	1	7	...	...	...	...	11	2	3	...	...	...	2	5	7	...
WORTLEY	6	16	1	...	...	...	16	7	16-8	...	17	6	107	77	10	13	11	3	8	1	...	1	...	19	2	3	...	...	1	1	4	17	...
KIRSTALL	5	7	1	...	...	...	8	5	19-	1	10	3	78	47	8	5	4	...	9	...	...	3	...	12	1	1	...	1	1	8	3	...	...
BRAMLEY	5	6	4	...	...	...	6	9	13-9	5	14	1	81	42	10	2	2	...	10	...	...	...	...	9	5	...	...	...	...	...	...	15	...
CHAPELTOWN	2	7	3	5	7	21-8	3	7	5	66	55	7	5	3	...	9	...	2	...	7	...	6	4	3	2	4	...	6	...
OSMONDTHORPE
TOTALS	81	239	13	1	196	138	17-8	33	266	68	1863	1059	157	174	161	6	162	2	5	1	19	...	217	68	58	...	5	10	62	124	127	5

T.—Trapped and then going directly into drain. C.—Cut off over an outside gully. T.C.—Same, plus an inside trap. D.—Directly connected with sewer.
 F.V.—Soil pipe continued full size above the eaves. T.W.C.—Trough water closet. M.—Midden. See note and text.

NOTES TO MEASLES TABLE—DEATH-HOUSES. (Table 10.)

The information in this table (except under head of density of population) refers to "death-houses," the facts about the same house being repeated for every fatal case which occurred in it.

Days from attack till heard of. This column gives for each district the average length of time, from the commencement of the symptoms to the date when information of the death reached our office, except in six cases where we had previously heard of the illness.

Houses. Column 12 deals with 266 houses, of which 251 were "back-to-backs," 7 "salt-pies," and 8 single houses, without an aperture in the rear wall. Of the latter, 2 occurred in the *West*, 3 in the *Bramley*, and 1 each in the *South-East*, *Hunslet*, and *Wortley* districts. The "salt-pies" occurred, 3 each in the *West* and *South-East*, and 1 in the *Chapelton* district. Of the actual houses, as distinguished from the "death-houses," 241 were "back-to-back," 6 "salt-pie," and 7 single houses, without a through draught. The remaining 63 (making up the 317) were through houses. Second deaths in actual houses occurred, 1 each in the *North*, *West*, *Holbeck*, *Kirkstall*, and *Chapelton* districts, 2 each in *Wortley* and *Bramley*, and 8 in *Hunslet*. One second-death house in *Holbeck*, 1 in *Chapelton*, and 3 in *Hunslet* were through houses. In *Bramley* a single house without a through draught had a second death, and a "salt-pie" in *West*. The other 10 were ordinary "back-to-backs." There were not more than two deaths in any house.

Density of population. The number of inmates or rooms is not re-counted where a second death occurred in the same house. The figures given deal with 317 houses in which 334 deaths occurred.

Drainage disconnection. Houses containing water-closets, with soil-pipe not properly ventilated, are included amongst those "not disconnected." One hundred and fifty-seven death-houses were disconnected, 174 not disconnected, and 3 had no drain. The corresponding actual houses were 146, 169, and 2.

Sink wastes. Three death-houses (two actual houses) in *Bramley* had no sink. There were 38 death-houses with an extra sink in each. No second death having occurred in these 38 houses, the actual houses are the same.

Other inside drainage. Every exit of waste water from the house to the drain, other than the sink, is included in these four columns; but many houses had no other inlet to the drain. These columns, consequently, will not balance the number of houses.

Outside drainage. The last remark also applies to columns 28 and 29. Columns 26 and 27 (fall-pipes) will balance if 12 death-houses in the *North*, 15 in the *West*, 8 each in *South-East* and *Hunslet*, 1 in *Holbeck*, 2 in *Wortley*, 1 in *Bramley*, and 2 in the *Chapelton* district, which had no fall-pipe on the house itself, be added. No second fall-pipe to the same house is counted.

Closets. One single-death house in the *North* district was without closet accommodation. Three death-houses had 3 additional conveniences; in the *Wortley* district, in column 31 (not F.V.), one single-death house had an extra water-closet outside, in *Chapelton*, column 34 (M.) one two-death house had an F.V. closet inside (= 2 extra).

TABLE 11.

Measles.—Recovery-houses † One hundred and five weeks ended January 2nd, 1897.

REGISTRATION DISTRICT.	AGES OF CASES.						SEX.		DAYS FROM ATTACK TILL HEARD OF.	AT SCHOOL.	HOUSES.		DENSITY OF POPULATION.		DRAINAGE.								CLOSETS.											
							M.	F.			BACK TO BACK, &c.	THROUGH.	INFANTS.	ROOMS.	DISCONNECTED.	NOT DISCONNECTED.	INSIDE.				OUTSIDE.				W.C.									
																	SINK.				FALL PIPE.				OTHER.				OTHER.					
0-1	1-5	5-15	15-25	25-60	60+								T.	C.	T.C.	D.	T.	C.	T.C.	D.	D.	C.	T.	F.	N.	F.	V.	INSIDE.	OUTSIDE.	W.C.	T.W.C.	M.	PAIL.	
COLS. 1																																		
NORTH	10	96	34	1	...	...	68	73	16.2	38	123	18	581	261	33	106	106	3	30	...	1	...	2	...	59	46	16	...	2	...	30	74	35	...
WEST	4	42	26	1	2	...	35	40	13.9	28	58	15	243	185	29	44	37	...	33	3	4	...	11	...	41	11	2	...	2	4	13	39	15	...
SOUTH-EAST	5	23	4	...	...	...	15	17	16.0	8	29	3	144	69	17	15	15	...	17	...	...	1	...	1	17	14	2	...	...	...	3	16	7	6
HUNSLY	...	10	5	...	...	...	6	9	13.7	8	14	1	66	34	4	11	10	...	5	...	...	...	...	...	13	1	6	...	...	1	5	7	2	...
HOLBECK	...	2	...	...	...	...	1	1	5.5	2	2	...	9	6	1	1	1	...	1	...	...	...	...	1	1	...	...	...	...	...	...	...	2	...
WORTLEY	1	7	5	...	...	...	8	5	7.9	8	11	2	50	24	8	5	5	2	6	...	...	...	...	...	12	1	...	...	1	...	...	...	12	...
KIRKSTALL	...	24	38	1	1	...	36	28	19.0	45	27	37	237	216	36	28	12	3	49	...	...	27	...	50	11	8	...	5	19	27	1	12	...	
BRANLEY	7	129	78	1	2	...	95	122	14.9	132	180	37	873	496	118	78	67	2	116	11	...	4	...	157	56	11	...	1	...	8	1	207	...	
CHAPELTOWN	1	9	21	1	2	...	15	19	9.3	24	7	27	126	98	22	8	5	...	25	...	1	...	7	...	13	17	11	...	1	4	6	2	21	...
OSMONDTHORPE	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTALS	28	342	211	5	7	...	279	314	15.1	293	451	140	2329	1359	268	296	258	10	282	14	6	...	52	...	353	158	56	...	12	28	92	140	313	6

T.—Trapped and then going directly into drain. C.—Cut off over an outside gully. T.C.—Same, plus an inside trap. D.—Directly connected with sewer.
 F.V.—Soil pipe continued full size above the eaves. T.W.C.—Through water closet. M.—Midden. See note and text.
 † Recovery cases in Table 11 include only such as occurred in houses in which no death from measles was recorded.

NOTES TO MEASLES TABLE—RECOVERY-HOUSES. (Table 11.)

The information in this table (except under head of density of population) refers to "case-houses," the facts about the same house being repeated for every case which is known to have occurred in it. The table only deals with measles houses in which there was no death.

Days from attack till heard of. This column gives, for each district, the average length of time from the commencement of the symptoms to the date of our first hearing of the illness.

Houses. Column 12 deals with 151 houses, of which 386 were back-to-backs, 14 "salt-pies," and 51 single houses without aperture in the rear wall. Of the latter there were 45 in *Bramley*, 2 in *West*, and 4 in *North*. Of the "salt-pies," 4 were in the *North*, 5 in the *West*, 1 each in *Wortley* and *Kirkstall*, and 3 in the *Chapeltown* district. Of the actual houses, as distinguished from the case-houses, 257 were back-to-back, 10 salt-pie, and 35 single houses without a through draught. The remaining 96 (making up the 398) were through houses.

Density of population. The number of inmates, or rooms, has not been re-counted where a second case occurred in the same house. The figures given deal with 398 houses in which 591 cases occurred.

Drainage disconnection. Houses containing water-closet, with soil-pipe not properly ventilated, are included amongst those "not disconnected." Two hundred and sixty-eight case-houses were disconnected, 296 not disconnected, and 27 had no drain. The corresponding actual houses were 183, 197, and 18.

Sink wastes. Twenty-seven case-houses had no sink. Of these, 21 were in the *Bramley*, 4 in the *Chapeltown*, and 2 in the *North* district. Forty-eight case-houses had one extra sink in each. The corresponding actual houses were 30, each having an additional sink.

Other inside drainage. Every exit of waste water from the house to the drain, other than the sink, is included in these four columns, but many houses had no other inlet to the drain. These columns, consequently, will not balance the number of houses.

Outside drainage. The last remark also applies to columns 28 and 29. Columns 26 and 27 (fall-pipes) will balance if 36 houses in the *North*, 21 in the *West*, 1 each in the *South-East* and *Hunslet*, 3 in *Kirkstall*, and 4 each in *Bramley* and *Chapeltown* districts, which had no fall-pipe on the house itself, be added. No second fall-pipe on the same house is counted.

Closets. Eleven case-houses had 11 additional conveniences. In the *West* district, a house (entered in column 30 under F.V.) had also an outside w.c. and 3 case-houses (2 actual houses) in column 31, "not F.V." had also each an additional water-closet outside. A house entered in column 34, "Midden," had an inside water-closet F.V. In *Kirkstall*, a house entered under column 31 "not F.V." had a midden, and 4 case-houses (3 actual houses) entered in column 34 "Midden," had each an additional F.V. water-closet. In *Bramley*, under the same column 34, there was also an additional F.V. inside closet.

1896) was due to a single death, in 1895, above the age of fifteen.

This single death, that of a girl of 15, occurred on March 8th, 1895. She was the daughter of a boot rivetter, and was regarded on the 1st of March as having bronchitis. No rash was observed. She was attended by one of the Dispensary officers.

She died in a back-to-back house in the Central Ward (North registration district). There were four rooms and a family of seven. Sink waste was trapped and cut off; there were no drains in the basement. There was a trapped gulley in the yard, and a clean outside w.c. 3 yards distant, used by three families.

Age of cases in recovery houses.* From table 11 it will be seen that amongst the recovery cases* the ages were slightly different. Whilst in the death table nearly a quarter of the whole were those of infants under one and 72 per cent. of children from one to five, amongst the recovery cases those under five were less than 5 per cent., those from one to five, 58 per cent., and those between five and fifteen, 36 per cent., while nearly 2 per cent. of the cases were above fifteen. This will be clearer if put in the form of a table:—

		DEATHS	RECOVERIES
		(Table 10).	(in recovery-houses only*) (Table 11).
Under 1	...	24·3	... 4·7
1 „ 5	...	71·6	... 57·7
5 „ 15	...	3·9	... 35·6
15 „ 25	...	·3	... ·8
25 „ 60	...	...	... 1·2
60 upwards	...	...	... ..
		100·1	100·0

* These cases are only those which recovered in houses in which no death occurred. There were 117 recoveries from measles in “death-houses,” but the ages of these have not been analysed.

Sex incidence. The relationship of sex in the 593 recovery cases, and the 334 deaths in the two years, are shewn in the figures given below :—

		DEATHS.	RECOVERIES (in recovery houses*).	
Sex—male	...	58·7	...	47·0
female	...	41·3	...	53·0
		<hr/>	<hr/>	
		100·0	100·0	

It will be seen that amongst the fatal cases the boys considerably predominated, but amongst the recoveries the cases were more nearly equal, but the predominance was slightly in favour of girls. It will be remembered that, especially at early life, mortality is higher amongst boys than girls. Unfortunately, as the recoveries do not include all, or even approximately all, the cases that occur—measles not being amongst the notifiable diseases—we cannot attach much importance to the proportion of deaths to recoveries. That is to say, we cannot calculate a case mortality by calculating the percentages of deaths to those of recoveries, but it is probable that each set of figures, so far as it goes, shews the incidence of sex mortality. These figures also refer only to the deaths in death-houses, and the recoveries in those houses examined in which no death occurred.

Days from attack till heard of. The illnesses in the recovery houses came to our knowledge an average of 15·1 days from the commencement of their attack. The average period before we heard of the fatal cases was 17·8 days. It will be remembered, of course, that a large amount of the information as to the recovery cases was obtained by visiting houses of absentees from school, and this information reached us only when the disease had already become prevalent.

School attendance. Of the 293 recoveries in recovery-houses (which, it will be remembered, included the larger number of older children), 49·4 per cent. were attending school at the time

*These figures pay no attention to the ages of children who recovered in houses where a fatal case occurred.

of attack. Of the fatal cases (of whom 96 per cent. were under the age of five), only 33 (9·9 per cent.) were attending school when the illness began.

HOUSE CONDITIONS.

Through houses, &c. Of the 591 patients, who recovered in the examined houses in which no death had occurred, 140 (23·7 per cent.) lived in through houses, 451 (76·3 per cent.) in not-throughs. The latter percentage was made up of 65·3 in back-to-backs, 8·6 in salt-pies, and 2·4 in single houses without apertures in the rear wall. Of the 334 deaths, 68 (or 20·4 per cent.) occurred in through houses and 266 (or 79·6 per cent.) in not-throughs, made up as follows:—75·1 pure and simple back-to-backs, 2·1 salt-pies, and 2·4 single not-throughs. These figures will be better seen if put side by side.

	DEATHS (in death-houses).		RECOVERIES (in recovery-houses).
In throughs	.. 20·4	..	23·7
In not-throughs	.. 79·6	..	76·3
	<hr/> 100·0		<hr/> 100·0

Inmates and rooms. The 591 recoveries in recovery-houses, in which the house conditions were investigated, lived in 398 houses in which there were 1,389 rooms, and 2,329 persons, including the patients. There was thus an average of 3·49 rooms, and 5·85 persons per house; the average number of persons per room being 1·68. On the other hand, 334 deaths occurred in 317 houses in which there were 1,059 rooms, and 1,863 inmates—an average of 3·34 rooms (below that of the recovery-houses), and 5·88 persons per house (slightly above that in the other group). The persons per room were consequently slightly higher than in the recovery-houses—1·76 against 1·68.

	IN WHICH SOME DIED.		IN WHICH ALL RECOVERED.
Actual houses	... 317	...	398
Rooms per house	... 3·34	...	3·49
Persons per house	... 5·88	...	5·85
Persons per room	... 1·76	...	1·68

Disconnection of drains. Using the term “disconnection of drains” in the same manner as in previous reports, and including, amongst the “disconnected” houses, only those in which every waste, except that of an inside water-closet, was carried at once through an outer wall and there “cut off,” and of which the soil-pipe of any inside water-closet was carried without any diminution of its bore above the eaves of the house, it will be found that amongst the 591 recoveries in recovery-houses, where the house conditions were fully inquired into, 268 (or 45·4 per cent.) occurred in houses in which the drains were “cut off” *secundum artem*. In 296 (or 50·1 per cent.), although there were drains, disconnection had not been effected; while in 27 (or 4·6 per cent.), there was no drain at all. Of the 334 death-houses, in 157 (or 47·0 per cent.) the drains were “cut off,” in 174 (or 52·1 per cent.) they were not; while in 3 (or 0·9 per cent.) there was no drain.

	DEATH-HOUSES.	RECOVERY-HOUSES.
“Cut off”	47·0	45·4
Not “cut off,” or no drain	53·0	54·7
	<hr/> 100·0	<hr/> 100·1

Closet accommodation. In regard to closet accommodation, as in recent years, we have dealt with each house as having the use of only one closet, selecting in the larger houses, where there were several, the one that was considered the least sanitary, in the following order:—Inside water-closet, with soil-pipe not fully ventilated; pail; midden; trough water-closet; inside water-closet, with fully ventilated soil-pipe; outside water-closet. Any house having two or more closets would be classed according to the one standing earliest in this list. We have thus, amongst the recovery-houses, 40 credited with an inside water-closet, equivalent to 6·77 per cent. of all the recovery-houses. The corresponding figure amongst the death-houses was 4·49. Amongst the 40 inside water-closet recovery-houses, 12 (2·0) were F.V.; 28 (4·74) “not F.V.” Amongst the 15 inside water-closet death-houses, 5 (1·50) were F.V.; 10 (2·99) not F.V. There were ordinary outside water-closets in 92 (or 15·57 per cent.) of the recovery-houses, and in 62 (or 18·56 per cent.) of the death-houses. Trough

water-closets occurred in 23·69 per cent. of the recovery, and 37·13 per cent. of the death-houses, whilst middens occurred in 52·96 of the recovery, and 38·02 death-houses. Classing the pail-closets with the middens, the percentages become 53·98 in the recovery, and 39·52 in the death-houses. In the latter group a single house (= 0·30 per cent.) was without a recognised convenience. Dividing the whole into two groups, according as there was, on the one hand, an ordinary water-closet of some kind, either inside or outside the house, or, on the other, the use of a convenience of the latrine, midden, or pail kind, the figures come out as shown below:—

	DEATH-HOUSES.		RECOVERY-HOUSES.	
Inside W.C. ..	4·49	..	6·77	
Outside W.C. ..	18·56	..	15·57	
<hr/>				
Together ..	23·05		22·34	
T.W.C... ..	37·13	..	23·69	
Midden or pail, ..	39·52	..	53·98	
None	0·30	.	—	
<hr/>				
	100·00		100·01	

It will be noticed that, grouped in this way, the difference is not very great between the recovery-houses and the death-houses as to the possession of a w.e. of some kind. There are a larger number of houses with inside water-closets (6·77) amongst the recoveries, and a smaller number of latrines (23·69). On the other hand, the houses with middens are more amongst the recovery-houses (53·98), and the houses with outside ordinary water-closets less frequent (15·57). In a special report in regard to measles in 1891, I drew attention to the predominance amongst the fatal cases of the trough-closet. It has, of course, to be remembered that the trough-closet has been substituted for the midden, principally in the more populous and crowded parts of the town. It is not, perhaps, safe, therefore, to infer that it is the trough-closet itself which is responsible for its higher position in the death group; the corresponding houses in the outer parts of the town have, of course, the older midden.

MEASLES DURING THE SIX YEARS 1891-6.

I am now able to give you a summary of certain facts dealing, not as in previous paragraphs with two years, but with the whole six years since 1890. The house conditions, during these six years, have been investigated, and from time to time tabulated in regard to 1,277 fatal, and 2,006 non-fatal, cases in the city. These figures exclude 432 cases of recovery in houses in which death had occurred; the object of the comparison being to contrast the conditions in houses in which all measles cases heard of got well, and those in which a case proved fatal. The 1,277 death-houses investigated do not correspond with the whole of the deaths in the city in that period, which were 1,302. The remaining 25 deaths were in public institutions, or large lodging-houses, or in houses to which, owing to the removal of the family or otherwise, we were not able to obtain entry. The percentage not investigated, however, was even less than this 2 per cent. Most of the latter were excluded from the table simply on the ground that the conditions, being those of large buildings, were misleading. A similar diminution in the number of recovery cases had, of course, taken place, but there is this great difference between the recovery and the death-houses, that we heard of every death registered from measles, and have investigated the conditions in every ordinary dwelling-house in which death occurred from this disease. In the recovery-houses, however, the cases heard of have been chiefly those to which our attention was directed in visiting locally the districts in which measles was prevalent, and in inquiring as to the cause of absence from elementary schools. The death-houses, therefore, may be taken to represent all the houses in the city in proportion to the deaths from measles that occurred in them. The recovery-houses represent principally the houses in the populous districts, and principally those of persons whose children attended elementary schools. The following general results, which are put below in the form of a table, may, therefore, be of interest:—

Through houses. Amongst the 1,277 death-houses investigated, 17.78 per cent. were throughs. Amongst the 2,006 recovery-

houses, 22·83 per cent. were throughs. These numbers bear to one another the proportion of 100 to 128.

	DEATH-HOUSES.		RECOVERY-HOUSES.
	(1,277)		(2,006)
Through . . .	17·78	...	22·83
or as . . .	100	to	128

Disconnection of drains. Amongst the 1,277 death-houses, 33·28 per cent. had every waste, except that of an inside water-closet, "cut off," and the soil-pipe of any such w.e. carried full bore above the eaves. The corresponding percentage amongst the recovery-houses was 37·53, and the proportion as 100 to 113.

	DEATH-HOUSES.		RECOVERY-HOUSES.
	(1,277)		(2,006)
"Cut-off" . . .	33·28	...	37·53
or as . . .	100	to	113

Closets. Amongst the death-houses 20·20 had ordinary water-closets either inside or outside the house; the remaining 79·80 per cent. having the use of trough closets, middens, or pails. Amongst the recovery-houses the percentage with ordinary water-closet was 28·62, and the relation between these two groups was as 100 w.e. houses amongst the death group, to 142 amongst the recovery group.

	DEATH-HOUSES.		RECOVERY-HOUSES.
Houses with any ordinary			
w.e. (inside or out) . . .	20·20	...	28·62
or as	100	...	142

A note about the proportion of inmates and rooms in the actual houses in which fatal and non-fatal measles occurred, will be found at page 84 later. Dealing with actual houses, it is there shown that the persons to a room averaged 1·65 in the recovery, 1·83 in the death group.

General sanitary conditions, exclusive of through draught and class of closet. Although 33·28 per cent. of the death-houses had their drainage "cut off" in the manner explained above, many of them had conditions of an insanitary nature of other kinds. In a few, although the drainage was technically "cut off," there was

some break-down in the drain pipes, and a possible accumulation of filth in the neighbourhood of the house. In others, there was a midden not more than three yards away from the house. In some there were three, or more than three persons, for each habitable room including the sitting-room. In some the house was returned by the Inspector as dirty. On account of one or other of these conditions, the proportion of 33·28 per cent. of houses treated *secundum artem* as to drainage was reduced to 25·84, as the proportion left in which no serious sanitary defect was revealed on the Inspector's visit, although it must be remembered that in hardly any of these 25·84 per cent. had a test of the drains been made, and that even in houses apparently "cut off" from the sewers, our tests have generally revealed a certain proportion in which there was an aerial connection between the drainage and the dwelling. Following the same lines, the houses in which no serious defect was found amongst the recovery group were reduced from 37·53 to 30·16 per cent. The ratio which, when disconnection merely had been taken into account, had been for every 100 death-houses properly "cut off" 113 recovery-houses so treated, became, when the other sanitary conditions were taken into account for every 100 death-houses, 117 recovery-houses.

			DEATH-HOUSES.		RECOVERY-HOUSES.	
"Cut off"	...	...	33·28	...	37·53	
or as	...	...	100·	...	113·	
Also excluding other glaring						
sanitary defects	...	...	25·84	...	30·16	
or as	...	...	100·	...	117·	

SCARLET FEVER.

The cases of scarlet fever heard of since the adoption of notification have been so numerous, that it has been impossible to complete the analysis, given formerly in table 12, in time for this report, except at the sacrifice of other work.

Cases of scarlet fever heard of since middle of 1894. Since notification became compulsory, the number of cases heard of in this way, in the two latter quarters of 1894, and the several

quarters of 1895-6-7, have averaged 312 per quarter, and have varied from 115 in the second quarter of 1895, to 612 in the fourth quarter of 1897. During these fourteen quarters,* 6 cases, not previously notified, were first heard of as dead. These deaths occurred, 1 each in the third quarter of 1894, third and fourth of 1895, fourth quarter of 1896, and third and fourth of 1897.

YEAR.	*QUARTER.	CASES.		DEATHS.	
		Heard of	Admitted to hospital.	City.	Hospital.
1894	III.	217	112	6	2
	IV.	272	118	16	7
1895	I.	145	77	7	2
	II.	115	70	5	1
	III.	296	177	18	8
	IV.	317	168	22	13
1896	I.	167	88	11	8
	II.	144	75	7	2
	III.*	373	137	24	5
	IV.	532	141	30	5
1897	I.	401	176	31	11
	II.	305	139	15	3
	III.	473	138	14	5
	IV.	612	119	35	8

* Each quarter consists of a period of thirteen weeks, except the third of 1896, which has fourteen.

Deaths from scarlet fever since middle of 1894. During the same period, the quarterly deaths in the city varied from 5 in the second quarter of 1895, and 6 in the third quarter of 1894, to 31 in the first, and 35 in last quarter of 1897.

Cases hospitalled since middle of 1894. The cases sent into hospital varied in these fourteen quarters from 70 in the second quarter of 1895, and 75 in the second quarter of 1896, to 176 in the first quarter of 1897, and 177 in the third quarter of 1895. The deaths in hospital, in the several quarters, varied from 1 in the second quarter of 1895, to 11 in the first quarter of 1897, and 13 in the fourth quarter of 1895.

Quarterly statistics since middle of 1894. As these numbers are of interest in shewing the prevalence of the disease in the town during the time notification has been compulsory, I print them in tabular form. (See opposite page.)

Scarlet fever in Leeds since 1889. In the supplementary report for 1895, a table was given on page 37, shewing, for each year since 1889, the number of cases heard of, and the number of patients admitted to hospital, with the deaths in the whole city and in the fever hospital. In this table the deaths in the city were also given for biennial periods as death-rates upon the whole population, and the cases sent to hospital were also shown for similar periods, per 1,000 of the population of the city. The general inference, from the facts shown in the table, was that while the deaths per 1,000 had exhibited a tendency to decrease, the cases sent to hospital had, on the other hand, shewn a tendency to increase. I repeat this table, adding the particulars for the two years, 1896-7. (See page 40.)

It will be noticed that the death-rate in the city is higher in the two later years than in either of the two preceeding biennial periods, and the number of cases also is considerably higher. As compared, however, with the years 1890 and 1891, the death-rate is lower, while the number of cases treated is three times as great in proportion to the population of the city.

Table showing cases of Scarlet Fever heard of in Leeds during the eight years, 1890-97, with the numbers admitted to the City fever hospital, and the deaths in the City and in hospital; showing also for biennia the relations to the population of the deaths in the City, and the admissions to hospital.

YEAR.	CASES.†		DEATHS.		Per 1,000 living (Annual Rates.)	
	Heard of.	Admitted to hospital.	City.	Hospital.	Deaths in city.	Cases in hospital.
1890	337	133	103	23	} 0·23	0·39
1891	328	152	66	18		
1892	812	440	74	19	} 0·14	0·83
1893	316	188	31	6		
1894*	967	453	52	18	} 0·13	1·21
1895	874	493	52	29		
1896	1,216	441	72	20	} 0·20	1·24
1897	1,791	572	95	27		

Want of sufficient hospital accommodation. I am still of the opinion, expressed in my supplementary report for 1895, page 38, that the want of hospital accommodation has acted detrimentally in two ways: (1) "by diminishing the air space about the patients,

* Notification became compulsory in May, 1894.

† "Cases heard of" does not include one fatal in the third quarter of 1894 (included, however, in the 52 deaths), of which we had no information till we received the Registrar's returns. Similarly one death in 1895, another in 1896, and two in 1897 are included in the death column, but not in that of cases heard of. Before May, 1894, there were, of course, many such. Cases heard of one year and not isolated till the beginning of the next, are counted as if reported in the latter. Such cases, however, were very few till notification became compulsory.

and (2) "by compelling us to leave at home many cases which "ought to have been isolated in hospital." It is not necessary to labour this point pressed upon you in so many previous reports. Everyone nowadays admits the undesirability either of admitting too many patients into our wards, or of leaving at home cases which ought to be taken into hospital. So far back as 1890, when the subject of adopting notification was before you, I pointed out in a report, dated January 4th of that year, page 7, that "our "present wards are deficient in size for the number of beds in "them. Allowing 2,000 cubic feet of air space, and 144 square "feet of flooring per bed, we have at Beckett Street scanty room "for 64 adult patients."

Increased demand for hospital accommodation since adoption of notification. In the same report it was suggested that we were hearing at that time of probably only one case of scarlet fever in every four, and I ventured to prophesy that a very much larger amount of accommodation would be required when notification became compulsory. This forecast, as you know, has been abundantly verified, so much so that an opinion would appear to have become prevalent, towards the end of 1897, that the increase in the number of cases of scarlet fever was something unprecedented.

Has scarlet fever become more prevalent? Naturally, infective diseases, like scarlet fever, vary in amount according to many circumstances, and in their ordinary course present, for short periods, rather abrupt variations. Our information about the number of "cases" existing in Leeds, is of little or no value before 1894. By looking, however, at our mortality returns, the figures in regard to which go back as far as 1870, we may get some idea of how we really stand. In the years 1870 to 1879 there were 3,090 deaths registered from scarlet fever. That is equivalent to a death-rate upon the estimated population at the rate of 1.09 per 1,000 per annum. During the ten succeeding years, 1880 to 1889, the deaths were 2,255, equivalent to a rate of 0.68 per 1,000 per annum. During the eight succeeding years, 1890 to 1897, the deaths were 543, equivalent to a death-rate of

0·18 per 1,000 per annum. It will therefore be seen that while the death-rate from scarlet fever has fallen from 109 per 100,000 in the seventies, to 68 per 100,000 in the eighties, it fell in the nineties, so far as they have yet gone, to 18. I place these figures in tabular form.

PERIODS.	DEATHS.	RATE PER 1,000.	FALL PER CENT. ON RATE OF PRECEDING PERIOD.
Ten years, 1870-79	3,090	1·09	...
Ten years, 1880-89	2,255	0·68	37·6
Eight years, 1890-97	543	0·18	73·5

Extent to which mortality from scarlet fever has recently decreased. While the rate in the second decade was 38 per cent. below that in the first, the rate in the period just concluded was 74 per cent. below that in the middle, and 83 below that of the earlier, period. There does not therefore seem any particular reason for feeling alarmed at the present prevalence of scarlet fever, although there is very little doubt that but for the unfortunate building strike, two years ago, we might have been able at the present time to limit that prevalence by hospital isolation of the more urgent cases.

DIPHTHERIA AND CROUP.

Since the early part of 1894, when notification became compulsory, 642 cases of diphtheria or membranous croup have been returned to us in terms of the Act. As a considerable number of deaths had occurred from croup without any specific description, I invited the co-operation of the profession to obtain notification of all cases of this disease.

Cases reported in 1895-6-7. Rejecting the returns for part of the year 1894, it will be found that, in the three subsequent years, the number of cases has varied slightly. In 1895, 129 cases of diphtheria, in 1896, 120, in 1897, 180 were reported—the

number of cases of membranous croup being respectively 42, 16, and 30. Of both diseases the middle year had the smallest number. If, however, we add the croups not specially defined, but which, as in previous years, exclude purely nervous conditions, the numbers for the three years become 193, 158, and 225, and the tremendous discrepancy between the diphtheria cases reported in 1895 and 1897, when they rose from 129 to 180, to some extent disappears. These numbers are placed in a tabular form.

	CASES HEARD OF		
	1895.	1896.	1897.
Diphtheria	129	120	180
Membranous croup ...	42	16	30
"Croup" *	22	22	15
TOTALS ...	193	158	225

Deaths in 1895-6-7. Turning now to death returns, in which respect we are able to some extent to compare preceding years, I find that, taking the same three groups, the deaths in 1895 were 85, in 1896, 74, and in 1897, 91. The differences were not, therefore, very great. If, however, we add the cognate disease, laryngitis, the totals become 101, 94, and 115. (See table, p. 45.)

Deaths in three preceding years. It is interesting to compare with these the deaths from the same groups in the three preceding years, 1892-3-4. In these three years, the deaths from diphtheria were 29, 59, and 60 respectively. Membranous croup and ordinary croup were not separated, but, adding both groups of deaths to the diphtheria deaths, the numbers were 78, 129, and 127. Adding the deaths from laryngitis, the totals become 113, 187, and 168—average 156,—against 101, 94, and 115—average 103,—in the three subsequent years. (See table, p. 45.)

* Exclusive of a large number of cases reported at our request after death.

Has diphtheritic disease increased? There is no reason, therefore, to think that the death-rate from the infective throat diseases has increased during the three later years. In fact, the actual deaths returned are only two-thirds in the later, of what they were in the earlier, triennium, notwithstanding the increase in the population of the city. Calculated per 1,000 of the estimated population, the death-rate was 0·41 in the earlier, 0·26 in the later triennium.

HOUSE CONDITIONS.

Drain tests. I do not propose to give a complete analysis of the house conditions in diphtheria and croup on the present occasion. Diphtheria and membranous croup became reportable on the 1st May, 1894. We heard, during the remainder of that year, and during 1895 and 6, of 537 cases, alive or dead, of either diphtheria or croup, not, however, distinguishing in this number the cases returned as membranous from those not so returned. Although instructions had been given in a general way, that every croup and diphtheria house was to have its drains tested, I am afraid that this was not carried out very systematically till towards August, 1894. Even then there was some little difficulty in getting the returns from the inspectors, who were perhaps, not unnaturally, putting things right without reporting exactly what had been found. It is obvious, however, that no inference can be safely drawn unless the results are tabled, both where defects are found and where none are discovered. Accordingly, in April of 1895, we established, as was stated in the annual report for that year (page 69), a special test book. We have now therefore the records up to the end of 1896 of 341 houses, in which a case of diphtheria or croup had been heard of, and in which a test had been applied to the drain. The test chiefly employed consisted in the breaking of a small glass tube, containing calcium phosphide, on the sewer side of some trap in the near neighbourhood of the house. There are, of course, fallacies in connection with this as with other means of examination. It is possible to make the smell in the sewer so strong that it issues from the sewer ventilators and pervades the whole atmosphere in the neighbourhood of the house. A careless inspector might mistake a smell, entering at the windows

and the ventilators of the house, for one issuing from the ground under the dwelling. This, however, is a mistake not likely to be often made by a careful observer. Probably the more frequent mistake is in not waiting sufficiently long for the smell of the test to penetrate through the layer of the soil on the top of an imperfect drain. The mere absence of smell, under certain conditions of the wind, may mean very little. In many cases, where the results were at first negative, the examination was repeated, but the house is only, of course, counted once in such case.

Table showing deaths from Diphtheria, Membranous Croup, "Croup," and Laryngitis, in triennia 1892-4, and 1895-7:

1892-4			1895-7		
1892	..	113	1895	..	101
1893	..	187	1896	..	94
1894	..	168	1897	..	115
Triennium	..	468	Triennium	..	310

Results in the whole group. Of the 341 houses whose drains were tested, in 104 the smell was distinctly detected inside the house, after taking the usual precautions to avoid a mistake. In 237 the result of the test was negative. These numbers correspond to 30·5 and 69·5 per cent. of the whole group.*

Of the 341 houses examined, 165 had their waste pipes (except in the case of an inside water-closet) carried directly through the outer wall of the house, and made to discharge into the open air. In 176, in regard to one or more wastes, this had not been done. These two classes of houses, the "cut off" and "not cut off" (disregarding for the present the question of the water-closet), were 48·4 and 51·6 per cent. of the whole group. Of the former, or more sanitary group, 21·2 per cent. allowed the test to penetrate

* It will be remembered as stated in the report for 1895 in dealing with typhoid fever and drain testing, that in 390 typhoid houses in which the drains were tested, between August, 1894, and the end of 1895, 33·1 per cent. were found wrong; and in 66·9 the result was negative.

into the house. Of the latter, those found wrong formed 39·2 per cent. of those examined.

It is therefore obvious that, disregarding altogether the question of inside water-closets, for every 100 houses found in aerial connection with the sewer, amongst those whose waste pipes were cut off, there were 185 amongst a similar number where the waste pipes had not been so treated. The influence of inside water-closets, however, cannot safely be disregarded.

TABLE 13a.

Showing result of tests applied to drains in 341 houses, in which cases of Diphtheria, Membranous Croup, or "Croup" were heard of, in the whole group, and separately in the "disconnected" and "not disconnected."

1894-6.	Houses examined.	Per cent. of larger group.	PERCENTAGE	
			Found wrong.	Not found wrong.
All	341	—	30·5	69·5
"Cut off"	165	48·4	21·2	78·8
"Not cut off"... ..	176	51·6	39·2	60·8

Houses with inside water-closet. There were 58 such in the whole 341. Of these, 33, or 56·9 per cent., responded to the test, while 25, or 43·1 per cent., did not. If these percentages are compared with the 30·5 and 69·5 of the whole group, they show that a somewhat larger proportion of the houses with inside water-closets are found defective on drain testing, than in the whole group disregarding this condition.

These houses may also be divided into two groups (1), where all the other wastes were "cut off," and (2), where one or other was "not cut off." The houses evidently belong to a better and more cared for class than the group as a whole; because, whereas, in the whole group only 48·4 per cent. had all their wastes, other than the closet drain, disconnected from the sewer, in the smaller

group of water-closet houses, those in which every other waste than the soil-pipe was disconnected, formed 77·6 per cent. Of the 45 houses which made up this 77·6 per cent., the drains of nearly half were found defective (48·9 per cent.).

Influence of inside closet. Of 165 houses in the group (in the second line of table 13a), where every waste except that of the soil-pipe was cut off, 120 had no inside water-closet, 45 had one or more. Of the 120 that had no inside water-closet, the drains in 13 were found defective; of the 45 this occurred in 22. These results and their proportionate relationship are given below:

Houses with ordinary wastes all disconnected.

In 120 houses with closet outside, 13 let in smell, or 10·8 per cent.

„ 45 „ „ inside, 22 „ „ 48·9 „

Of the 176 houses “not cut off” (see line 3, table 13a), 13 had an inside water-closet, 163 had not. Of the thirteen with water-closets, 11 (84·6 per cent.) yielded to the test; 2 (15·4 per cent.) did not. Of the 163 without the inside water-closet, 58 (or nearly 35·6 per cent.) gave positive evidence of aërial connection with the drain; 105 (or 64·4) did not. These results show up as follows:

Houses in which other wastes not all cut off.

In 163 with closet outside, 58 let in smell, or 35·6 per cent.

„ 13 „ „ inside, 11 „ „ 84·6 „

Briefly, therefore, of the houses with drains “cut off,” but without an inside water-closet, under 11 per cent. responded to our test, and this number rose to nearly 49 per cent. where the inside water-closet existed. Of those “not cut off,” but without an inside water-closet, 35·6 responded to our test, of those “not cut off,” but with an inside water-closet, 84·6.

Ventilation of soil pipe. The question of whether the soil-pipe of an inside water-closet was freely ventilated or not, seemed to have some influence upon the result of the tests, though not to any very great extent. Under the heading “F.V.” we have classed all soil-pipes in which the undiminished tube was carried above the eaves of the house. Those “not F.V.” include pipes in which a small tube was taken from the soil-pipe as a ventilator, in which

TABLE 13b.

Similar to last in reference to 58 houses with inside water closets, showing also the results found, on drain testing, where the soil-pipe was fully ventilated and otherwise.

1894 6.	Houses Examined.	Per cent. of smaller group.	PERCENTAGE.	
			Found wrong.	Not found wrong.
All	58	—	56·9	43·1
Drains, other than soil-pipe, "cut off"	45	77·6	48·9	51·1
Do. do. "not cut off"	13	22·4	84·6	15·4
Soil-pipe, F.V.	14	—	50·0	50·0
Do. other drains "cut off"	11	78·6	36·4	63·6
Do. do. "not cut off"	3	21·4	100·0	—
Soil-pipe, not F.V.	44	—	59·1	40·9
Do. do. other drains "cut off"	34	77·3	52·9	47·1
Do. do. do. "not cut off"	10	22·7	80·0	20·0

the rain-water pipe was utilized for this purpose, and those soil-pipes of inside water-closets in which there was no attempt at ventilation whatever. The first group ("F.V.") numbered only 14 houses, any house having more than one water-closet being classed according to what we regarded as the weakest form. The other group comprised 44. Of these 44, in 21 ventilation was by a fall-pipe, in 12 there was a small ventilating pipe, in 11 there was no attempt at the ventilation of the soil-pipe discoverable.

In the first ("F.V.") group the percentage of houses in which the smell came inside the dwelling, apparently from the drains, was 50; in the other larger group it was 59·1. When the question of cutting off other drains was taken into account, the difference between the two classes of soil-pipe was more conspicuous. Eleven (that is 78·6 per cent.) of the 14 "F.V." water-closet houses had all their other drains "cut off." Thirty-four of the "not F.V." houses (that is 77·3 per cent.) had all their other

drains “cut off.” Of the 11 in the better-drained houses with an “F.V.” closet, the smell of the drain test was discovered inside the house in 4 (36·4 per cent.). In the 34 “not F.V.” closet houses, but which had all their other wastes “cut off,” the percentage of houses found wrong rose from 36·4 to 52·9, a very marked and considerable increase.

The numbers here dealt with are too small to be of very great importance, but so far as they go, it might be said that, taking only houses with inside w.c.’s and all other wastes “cut off,” the number that would give 100 faulty drains amongst those in which the soil-pipe was freely ventilated would give 145 where that precaution had not been taken.

Inside and outside closets. Disregarding other conditions, we have seen that the drains of 56·9 per cent. of those houses which had closets inside, were found faulty on testing. Where there was a water-closet, but it was outside, the corresponding number was 25·6—considerably less than half.

TABLE 13c.

Showing percentage of all inside water closet houses found, on testing, to have drain defects ; of those with F.V. soil-pipes, and with soil-pipes not F.V.; showing also the proportions in houses with outside water closets.

1894-6.	Houses.	Found wrong.	Not found wrong.
Inside W.C. . .	58	56·9	43·1
Outside W.C. . .	90	25·6	74·4
Inside (F.V.) . .	14	50·0	50·0
Inside (not F.V.)	44	59·1	40·9

Other conveniences. In a similar manner, where the convenience was a latrine, and disregarding the question of the connection or disconnection of the drain, the number found wrong was only 18·2, and, where it was a midden, it rose to 30·5. These numbers are, to some extent, controlled, but not entirely so, by the proportion of the houses in which ordinary wastes were “cut off” or “not cut off.” In regard to the houses with outside water-closets, or middens, this is very nearly the case—61 per cent. of the former belonging to the “cut off” group, and only 30 per cent. of the latter. So that the smaller proportion found wrong amongst the outside water-closet houses, as compared with the midden houses, is somewhat accounted for by the fact that the former contained a larger proportion of dwellings disconnected from the drain. But even here there are differences not easily accounted for. It is difficult to say why, amongst the outside water-closet houses with disconnected drains, 14·5 per cent. should give results to our tests, but only 9·4 per cent. amongst the smaller proportion of “cut off” midden houses. The latrine houses, on the other hand, give the best result of the group, in this instance, 18·2. They numbered 88. Of the 33 of them which were “cut off,” 6·1 per cent. yielded to the test. Of the 55 “not cut off,” 25·5 per cent. did so. Whether in regard to the “cut off,” or “not cut off,” or the group combining both, the latrine houses showed up better than either the water-closet or the midden houses. If one might venture upon an explanation, it would be something as follows. Trough water-closet houses are generally dwellings for which something has been recently done, and, being in the poorer parts of the town, they are also more continually and regularly inspected than either of the other groups. The outside water-closet houses are many of them comparatively new houses, and have not been so recently examined. The same is true, in regard to the newer parts of the town, of the midden houses. We have been getting rid of middens in the centre of the town. The public have been building them in the outer districts. It has, of course, to be remembered that aerial connection with the drain is only one factor in the healthiness of the house, and that a house, so far as our tests go, may be perfectly free from this objectionable con-

dition, but may be dirty, overcrowded, unventilated, and situated in a close yard. (See also pp. 95 and 96.)

TABLE 13d.

Similar in reference to 90 houses with W.C. only outside.
88 with trough latrines. and 105 using middens or pails.

1894-6.	Houses examined.	Per cent. of smaller group.	PERCENTAGE.	
			Found wrong.	Not found wrong.
Outside W.C's.	90	—	25·6	74·4
Cut off	55	61·4	14·5	85·5
Not cut off	35	38·9	42·9	57·1
Latrines	88	—	18·2	81·8
Cut off	33	37·5	6·1	93·9
Not cut off	55	62·5	25·5	74·5
Middens	105	—	30·5	69·5
Cut off	32	30·5	9·4	90·6
Not cut off	73	69·5	39·7	60·3

WHOOPING COUGH.

The deaths ascribed to whooping cough in 1894 were 131, in 1895, 113, in 1896, 247, and in 1897 they fell to 98.

At page 48, in the annual report for 1895, a table was given shewing the deaths registered from this disease under and over the age of five, in each quarter, since September, 1889, along with the estimated death-rates per thousand living at those and all ages. During that period the death-rates, at all ages, ranged for the quarter (which included the first quarter of 1896) from 0·17 in the third quarter of 1894, and 0·18 in the fourth quarter of 1892, and the second quarter of 1895, to 0·75 in the first quarter of 1892, to 0·78 in the fourth quarter of 1893, to 0·79 in the first quarter of 1890, and 1·06 in the first quarter of 1896.

Table showing deaths from Whooping Cough under and over the age of five. with the death-rate at these, and at all ages, for each quarterly period since October, 1889.

Year.	Quarter.	Deaths registered.			Deaths per 1,000 living.		
		Under five.	Over five.	All ages.	Under five.	Over five.	All ages.
1889 ..	IV.	55	1	56	4.95	0.013	0.63
1890 ...	I.	68	3	71	6.01	0.038	0.79
" ...	II.	53	1	54	4.69	0.013	0.60
" ...	III.	27	1	28	2.39	0.013	0.31
" ...	IV. *	28	3	31	2.30	0.035	0.32
1891 ...	I.	31	1	32	2.69	0.012	0.35
" ...	II.	46	3	49	4.00	0.037	0.53
" ...	III.	25	1	26	2.17	0.012	0.28
" ...	IV.	39	5	44	3.39	0.062	0.48
1892 ...	I.	70	—	70	5.98	—	0.75
" ...	II.	43	1	44	3.67	0.012	0.47
" ...	III.	26	1	27	2.22	0.012	0.29
" ...	IV.	17	—	17	1.45	—	0.18
1893 ...	I.	21	1	22	1.76	0.012	0.23
" ...	II.	33	1	34	2.77	0.012	0.36
" ...	III.	36	1	37	3.02	0.012	0.39
" ...	IV.	74	—	74	6.21	—	0.78
1894 ...	I.	52	1	53	4.29	0.012	0.55
" ...	II.	38	1	39	3.13	0.012	0.40
" ...	III.	15	1	16	1.24	0.012	0.17
" ...	IV.	23	—	23	1.90	—	0.24
1895 ...	I.	19	1	20	1.54	0.012	0.20
" ...	II.	18	—	18	1.46	—	0.18
" ...	III.	25	—	25	2.03	—	0.25
" ...	IV.	47	3	50	3.81	0.035	0.51
1896 ..	I.	104	2	106	8.29	0.023	1.06
" ...	II.	79	—	79	6.30	—	0.79
" ...	III. *	36	1	37	2.74	0.011	0.34
" ...	IV.	25	—	25	1.99	—	0.25
1897 ...	I.	18	—	18	1.41	—	0.18
" ...	II.	12	—	12	0.94	—	0.12
" ...	III.	17	—	17	1.33	—	0.17
" ...	IV.	48	3	51	3.76	0.034	0.50

* The deaths in the fourth quarter of 1890, and third of 1896, are for a period of 14 weeks, for every other quarter for 13 weeks. The rates are annual rates upon the populations estimated to the middle of each year.

During the several quarters of 1896, as will be seen from table 18, the death-rates, irrespective of ages, for the several quarters (the third quarter having fourteen weeks, the rest thirteen) were 1·06, 0·79, 0·34, and 0·25—an average of 0·60 for the year, as against 0·29 in 1895, and 0·34 in 1894. It is convenient here to give the figures for the following year, 1897:—The death-rates for the respective quarters were 0·18, 0·12, 0·17, and 0·50—the average for the year being 0·24.

Is whooping cough on the increase? It is interesting to notice the variations in different years—curiously enough 1896 had the highest, and 1897 the lowest rate I have had to report upon. For the years 1890 to 1893 the whooping cough death-rate was 0·51, 0·41, 0·42, and 0·44 respectively—an average of nearly 0·45. During the four succeeding years, the rates, as already said, were 0·34, 0·29, 0·60, and 0·24, an average of 0·37. During the second period of four years, as compared with the first, the mortality was therefore 17 per cent. lower, and the answer to the question in the heading is in the negative.

Continued Fevers.

The cases of the various continued fevers heard of during life, during the several quarters of 1894, 5, 6, and 7, since the adoption of notification, are shown below:—

		I.	II.	III.	IV.	TOTAL.
1894	{ Typhus ...	...	...	...	...	...
	{ Typhoid ...	...	...	108	78	186
	{ Continued ...	...	...	3	2	5
1895	{ Typhus ...	...	...	...	...	...
	{ Typhoid ...	16	35	125	246	422
	{ Continued ...	1	2	5	13	21
1896	{ Typhus ...	...	...	36	6	42
	{ Typhoid ...	61	41	198	138	438
	{ Continued ...	...	..	...	2	2
1897	{ Typhus ...	...	...	1	...	1
	{ Typhoid ...	61	45	163	210	479
	{ Continued ...	...	...	...	1	1

The second quarter of 1894 is left out, as notification only became compulsory on the 1st of May. The third quarter of 1896 had fourteen weeks, the others each thirteen.

It will be noticed that the amount of typhoid in the three complete years has varied, but not to any considerable extent. There were 422 such cases heard of in 1895, 438 in 1896, and 479 in 1897. On the other hand, it will be noticed that in 1895, 21 cases were returned as continued fever, but only 2 and 1 respectively in the two following years. The reason for this discrepancy is that in the later years we have written to the medical man reporting a case of continued fever, and ascertained from him, where practicable, whether he had been able to ascertain from the progress of the case which of the continued fevers the case should be properly classified under. There is a certain convenience in certifying a case about which there is some doubt, in the first instance, as one of continued fever. Many of these cases are, however, really cases of typhoid. On the other hand, a considerable number of cases reported originally as typhoid, when sent into hospital, are found not to run the true course of that disease, and are not included in the corrected quarterly returns, although originally notified as typhoid. It is probable that the increase in the number of cases returned as typhoid in 1897 points to a slight actual increase in the number of cases during that year. If, however, we add the continued fever cases to the typhoids, the numbers become 443 in 1895, 440 in 1896, and 480 in 1897.

We are unable to compare with any accuracy the cases in previous years before notification became compulsory. In those years the cases heard of were many of them those which the medical attendant desired to send into hospital, and a certain number were cases where we were asked to examine the drains or disinfect the house after the illness.

Deaths from continued fever since 1870. Although our notifications only date back to the middle of 1894, we are able to form some idea of the prevalence of fever, including under that term not only typhoid, but other continued fevers, such as typhus, and a few cases about which there was a doubt.

During the years 1870 to 1879 there were 2,059 deaths recorded by the Registrar-General as due to "fever." This is equivalent on the mean estimated population of that period to a death-rate of 0.73.

During the period 1880 to 1889 there were 1,116 deaths, equivalent to a death-rate during the period of 0·33. During the eight accomplished years of the present decade there were 658 deaths, equivalent to a rate of 0·22 per thousand per annum. I put these numbers in the form of a table :—

PERIODS.	Deaths.	*Rate per 1,000.	Fall per cent. on rate of preceding period.
Ten years, 1870-79 ...	2,059	0·73	...
Ten years, 1880-89 ...	1,116	0·33	54·8
Eight years, 1890-97 ...	658	0·22	33·3

Fever mortality, 1890-97. The deaths from typhus, typhoid, and other or doubtful continued fevers, during the eight years 1890 to 1897, are given below :—

YEAR.	Typhus.	Typhoid.	Other.	Total.	Total from Registrar-General's returns.
1890† ...	3	103	5	111	112
1891 ...	1	66	6	73	73
1892 ...	...	60	4	64	62
1893 ...	1	107	6	114	110
1894 ...	...	50	3	53	52
1895 ...	...	85	1	86	82
1896† ...	9	77	1	87	87
1897 ...	...	83	2	85	80
Total ...	14	631	28	673	658

* The rate for 1870-79 is calculated on the mean of the population estimated by the Registrar-General at the time for 1874 and 1875. If the population is calculated on the mean of the 1870 population, estimated at the rate of increase between 1861-71. and the 1879 population at the rate of increase between 1871-81, the rate is 0·74. Similarly, on 1871-81 and 1881-91 populations, the rate for 1880-89 becomes 0·35. Calculated on the population estimated by geometric progression to the end of 1874, the rate for the first decade to two places remains 0·74.

† 1890 and 1896, 53 weeks ; rest, 52.

It will be noticed that the column of totals from the Registrar-General's returns differ slightly from our own. The deaths given in the previous table are those from the Registrar-General's returns. The difference between the 673 and the 658 in the two last columns of the accompanying table does not affect the death-rate, 0·22, to the second place of decimals calculated on the smaller number in the earlier table.

Has "fever" become more prevalent? It is evident from the last table but one that the death-rate during the eight years of the present decade was much less than during either of the decades preceding. From the last table it will be noticed that in the earlier four of the eight years in the "nineties," there were 357 deaths returned to the Registrar-General as due to "fever." During the last four the deaths were 301. These are equivalent to rates of 0·24 and 0·19 per thousand of the estimated population respectively—an improvement of 21 per cent. in the last as compared with the earlier four of these years. The improvement, therefore, which had been going on before, is apparently being still kept up. It is not, of course, to be expected that it should be at the same rate as in the earlier periods. Still, 21 per cent. of an improvement in four years does not compare badly with 33 per cent. in nine.

TYPHUS.

During the autumn of 1896 a limited outbreak of typhus occurred in Leeds. Thirty-six cases were reported in the third, and six in the fourth quarter of the year. It will be noticed from the table given on page 53 that with the exception of one case so certified in the third quarter of 1897, these were the only cases of typhus that have been reported to us since notification became compulsory.

Cases and deaths, 1890-97. As, however, since 1890 I can speak with some confidence as to the occurrence of this disease, I may give the returns of cases and deaths during the last eight years.

Cases heard of.				Deaths.	Cases heard of.				Deaths.
1890	...	12	...	3	1894	..	—	...	—
1891	...	1	...	1	1895	...	—	...	—
1892	...	1	...	—	1896	...	12	...	9
1893	...	1	...	1	1897	...	1	...	—

In regard to the cases in 1890, a special report was made in that year. About the single case reported after death in 1891, as was remarked in the annual report for that year, there seemed to be a certain amount of doubt. From inquiry made when we heard of the death, it seemed possible that the case had been really one of small-pox, fatal during the stage of prodromenal rash. The case reported as typhus in the last week but one of the third quarter of 1892 was taken to hospital, and there was no further spread of the disease. In this case also there was some doubt about the diagnosis. The case which occurred in the third quarter of 1893 died in hospital, and the Resident Medical Officer did not feel justified in altering the diagnosis, although the symptoms were somewhat obscure.

Deaths from typhus, 1876-89. Before dealing with the cases in 1896, I will quote a table which appeared in the special report already referred to. This deals only with deaths, and was compiled for the years 1876 to 1886 from figures left by my predecessor in office, and completed from 1886 to 1889 for the report referred to.

DEATHS FROM TYPHUS IN LEEDS FOR FOURTEEN YEARS,
1876-1889.

1876	...	20	1881	...	4	1886	...	13
1877	..	11	1882	...	1	1887	...	6
1878	...	12	1883	...	0	1888	...	5
1879	...	2	1884	...	1	1889	...	0
1880	...	5	1885	...	1			

Is typhus on the increase? Combining the information in the two tables just given, it will be seen that during the seven years 1876-1882, 56 deaths occurred from this disease. During the next seven years, 1883-1889, 26 deaths were ascribed to typhus. During the eight years 1890-1897 (including the two doubtful cases) there

were 14 deaths. The disease, therefore, so far as is evidenced by the death returns, cannot be regarded as on the increase. It is, however, an opprobrium to Leeds that typhus should ever occur at all. I place these figures under one another below, and add the ratios of mortality to estimated population. The death-rates are given per million instead of per 1,000, to avoid too many places of decimals.

Seven years	1876-82,	deaths,	55 ;	death-rate per million,	26·21.
"	"	1883-89,	" 26 ;	"	" 10·97.
Eight	"	1890-97,	" 14 ;	"	" 4·54.

Conditions in 1890 outbreak. It will be remembered that when the outbreak of 1890 took place, notification was not compulsory, but when cases were recognised, they were promptly reported by the medical men in attendance. By good fortune, Mr. Hick, lately the Resident Medical Officer of our hospital, then newly in practice, was called in to one of the earlier cases, recognised it at once, and in the course of a few days we had all the cases of typhus in the town in hospital. You will remember also that we quarantined, in the old Ivy House, the families from which they came, and that no new case in the town arose after these measures were taken. I pointed out also that what was probably the first case of typhus had apparently not been recognised as such, and that this man had opportunities of receiving the infection outside the town.

The 1896 outbreak. In the 1896 outbreak, however, notification was compulsory. Two of the earlier cases were both reported as cases of typhoid, although in each instance, the suspicion of the medical man who certified having been aroused, he drew our attention to the peculiarities of the case. These illnesses were reported, one from the Infirmary, and four from a house in Hunslet.

First case heard of. The Infirmary patient was a man of 32. Though his illness had commenced on the 11th of July, his case was not reported in any way to us until the 24th, and then, although the Resident Physician was suspicious about the symptoms, the Visiting Physician was not inclined to regard the

illness as typhus, and it was not until the patient had been eleven days in the Infirmary that he was removed to the Fever Hospital. He had come from Middle Fold, Mabgate, and was in the habit, occasionally, of frequenting the Globe Inn, at the bottom of Quarry Hill. It is probable that he received his infection somewhere about the beginning of July, but we were unable to trace his case distinctly to any known previous one. The house was one, however, in which the occupants frequently changed, and, although the mistress of the house denied that such had been the case, it is not at all impossible that some person recently suffering from typhus may have been an inmate at the end of June or the beginning of July. Although this man's was the first case heard of, a patient to be presently mentioned had been taken ill on the same day, and another of the same family about the same time. In this family, as will be shown presently, there had been illness of a suspicious character a month earlier.

Group next heard of. Four cases were notified to us the same day, July 27th, in a house in Hunslet. Their illnesses are said to have commenced, three about the 11th and one on the 18th or 19th of July. It was the attack of so many in so short a time that suggested the idea of typhus to the medical man who was called in to the fourth case on the 27th. Another member of this family developed the disease a few days later in quarantine. On enquiry it was found that the family had only come to live at Hunslet on the 27th of June, their father having taken a house in order to remove them from the influence of their mother, who was of drunken habits. With exceptions, to be presently mentioned, they had lived in Globe Yard, Quarry Hill, until that date. The mother had been ill, and died on June 20th. She was a hawker, and was frequently in the Globe Inn. Her death was certified as due to delirium tremens, but from the history we obtained from her family and neighbours, there seems great probability that hers was a case of typhus. Her illness was said to have commenced on the 16th of June, that is, 32 days before that of the man sent to the Infirmary.

The possible first case. If this conjecture be right, and Mrs. Gibbons, a hawker by trade, was really suffering from typhus from the 16th to the 20th of June, hers, or other of her family, rather than the Middle Fold man's, would probably be the first case in Leeds. It was exceedingly difficult to get any accurate statement of the number of occupants at 43, Globe Yard, a month before the illnesses were reported to us at Lom Street. In May, 1896, when the house was visited on account of measles (1852: 7 and 8), there were the mother, aged 36, John, aged 10, Kate, aged 8, Michael, aged 5, living in the house. The father had apparently been living elsewhere. Agnes, aged 18, and Mary, aged 16, were in service at Stamford Street. Possibly they came home occasionally. Agnes seems to have gone to Globe Yard to nurse her mother, presumably between the 16th and 20th of June. The father took the house at Lom Street, Hunslet, for his family on the 22nd of June, but, as already said, did not take them there until the 27th. Agnes's illness is said to have commenced with malaise and headache on the 11th of July, sore throat on the 14th, and eruption on the 16th. If the illness really began on the 11th, the eruption might probably have been seen, if looked for, a couple of days earlier. The attack is said to have continued for thirteen or fourteen days, and to have been accompanied by delirium. The improvement seems to have been a marked one at the end of the period named, and there seems little, if any, doubt that Agnes's was a case of typhus. John, aged 10, and Kate, aged 8, had similar illnesses about the same time as Agnes. When they came under our observation they were convalescent.

Our first intimation of these cases, as already said, was by letter (dated the 25th, received the 27th of July). The medical man enclosed three certificates, and said that he had seen these cases for the first time that day, that there was no one to look after them but a sister, who was too ill to be on her feet; that he had attended her a fortnight before for acute bronchitis, but now, as there was a mottled rash on the second girl (Mary, aged 16), he wondered whether it had really been a case of typhus. Mary's illness is said to have commenced on the 18th or 19th of July.

We took her and the two little ones to hospital, and it having been afterwards certified that Agnes and Michael had typhoid, we removed them also. The father was taken to the cottages, and was sent into hospital on the 30th, his illness having commenced the previous day. Michael does not seem to have had typhus at this time. His escape, when exposed to the infection, not only when in the house in Lom Street but in the ward in the hospital, is remarkable. It would be explicable on the theory of a previous attack, but of such we have no history.

The day after we heard of these Hunslet cases, one was reported as typhus in a house at Globe Yard, next door but one to the house from which they had moved. This woman's illness began on the 19th of July.

Thirteen days later we had two cases reported in the next house in the same yard, that is, the house between the two first attacked. In this house, however, we found a lad who, when seen by some of us on July 30th in visiting the neighbouring houses, had evidently suffered lately from some acute illness. Enquiry shewed that he had sore throat, pain in the back and head on the 16th, and was attended for tonsillitis from the 20th to the 29th of July. We regretted afterwards we had not at that time isolated him and the rest of the family, but were prevented from doing so by the confident diagnosis that had been made of his ailment.

Up to this time, therefore, and including the members of this family, the cases known or suspected to have had typhus are those contained in the table on page 62, which includes an Infirmary nurse, infected from the Middle Fold man, during the time he was in that institution, and we were in hopes at the time, having isolated all the members of all these four families in our quarantine cottages, that we had probably stopped the further progress of the disease. The table given includes all the members of these families that we know or suspected to have had typhus.

Further spread. On the 17th of August, the case of a char-woman living at Phillip's Yard, Off Street, was reported to us. Her illness had commenced on the 14th of August. It was not

easy to trace any direct connection between her's and the previous cases. This woman and three children occupied a room in a house, the apartments of which were sublet. Her room was entered from one occupied by a man and his wife who worked, the former as a glassblower at Hunslet, the latter as charwoman at the Red House Inn, York Street, and the Crown and Anchor, Dewsbury Road. Of the patient's three children, two were at St. Charles' School, Quarry Hill—the same school as certain of the family from 47,

Earlier cases suspected to have been typhus.

	Name.	Age.	Remarks.	Disease stated.	Address.	First symptoms.
1	Mary G....	36	...	D.T. ..	43, Globe Yard ...	June 16
2	Agnes G....	18	Daughter of No. 1	Enterie	Lom Street, formerly 43, Globe Yard ...	July 11
3	John G. ...	10	Son of No. 1 ...	"	" "	(?) " 11
4	Kate G. ...	8	Daughter of No. 1	"	" "	(?) " 11
5	Luke O'N.	32	...	"	Infirmery, formerly 51, Middle Fold ...	" 11
6	Sam H. ...	16	Neighbour to No. 1	Tonsillitis	45, Globe Yard ...	" 16
7	Mary G....	16	Daughter of No. 1	Enterie	Lom Street, formerly 43, Globe Yard ...	" 18
8	Ellen M....	29	Neighbour of No. 1	Typhus	47, Globe Yard ...	" 19
9	Patriek G.	42	Husband of No. 1	"	Cottages from Lom Street, formerly 43, Globe Yard	" 29
10	James H.	14	Brother of No. 6...	"	45, Globe Yard ...	August 7
11	Hetty P....	23	Nurse of No. 5 ...	"	Infirmery ...	" 8
12	Henry H.	12	Brother of No. 6 ...	"	45, Globe Yard ...	" 9
13	Annie H.	11	Sister of No. 6 ...	"	Cottages. From 45, Globe Yard ...	" 11
14	Kate H. ...	9	Sister of No. 6 ...	"	" "	" 12
15	John H. ...	4	Brother of No. 6...	"	" "	" 12
16	Sam H. ...	46	Father of No. 6 ...	"	" "	" 13
17	Thomas H.	20	Brother of No. 6...	"	" "	(?) " 22

Globe Yard, who had been taken to the isolation cottages on the 29th of July. Not only was the school the same, but one child was in the infant department and one in the 1st Standard, and the three children from 47, Globe Yard were, one in the 1st Standard, and two in the infant department of this school. Two members of the other family at 45, Globe Yard were at the same school, but in another (the 2nd) Standard.* They were not isolated

* The children in 1st and 2nd Standards are in the same class-room upstairs. The infants are in a separate room downstairs, but have same playground separated for the sexes.

till the 10th of August. So this woman's children were in possible contact with those from infected houses so late as August 10th, and, as the school is close to Globe Yard, they may have even been with their school-fellows in one of the infected houses--possibly in the one in which case (No. 6) had been ill from the 16th of July.

This Phillip's Yard patient was taken to hospital on the 17th, the day her case was reported. The same day her three children, with the two occupants of the adjoining room, and the caretaker of the group of lodging houses, and her husband (a boot finisher), were removed to the cottages. The two latter did not live in the same house as the patient, but in one fronting to Off Street. The woman, however, had charge of the apartments. The patient worked a good deal as charwoman amongst the Jews in the Leylands. She was too ill at the time to give us information as to the exact places, and these could not be ascertained from the neighbours. She has since stated that before her illness she worked in a Jewish family in Pink Street, Regent Street (Leylands), but that the principal part of her work lay in St. Peter's Street. She washed for a family in St. Peter's Court, where a child died on 25th of July. The death was regarded by the medical attendant as due to teething and broncho-pneumonia. On the whole the school seems the likelier source of infection, but why the children should have themselves escaped is less clear.

On the following day (August 18) we heard of a lad in Gower Street, who had been taken ill on the 16th. He was a tailor's machinist at a Jewish workshop in Telephone Place, and was removed the same day (the 18th) to hospital, six other members of the same household going to the isolation cottages. It was found afterwards that another member of the family, presumably a lodger, worked as a slipper maker at Elkan Goldman's, in Millgarth Street. For the same people, Charlotte S., whose case we heard of afterwards, was working at the time of this boy's and her own attack. There was history of intercourse on part of this boy with 4, Bridge Court, or with a family G., where Sarah B. (case 30) slept. This case to be presently mentioned was traceable to those in Malt Street. This is referred to again.

On the same day (August 18th) at Buslingthorpe Court (a yard at the Chapeltown Road end of Buslingthorpe Lane), a young married woman of 22 (a tailoress, but not working at the same place as the boy from Gower Street), was reported to have typhus and removed to hospital. Her husband, a boot-rivetter, was also isolated. She, unfortunately, died on the 23rd. It turned out that this patient had only recently been married. The marriage festivities took place at 45, Globe Yard, on the 1st of August, when her brother Sam was only just recovering from "tonsillitis." Her brother James's illness began on the 7th, and her brother Henry's on the 9th, and next door, the mother of the family (case 8) had been ill from about the 19th of July, and had only been removed to hospital on the 28th. We had some difficulty in ascertaining the names of all those who were at this marriage party, but it included some of her fellow-workers at Arthur's. Having heard something about these circumstances, the house of this newly married couple had been frequently visited by an inspector from the 11th of August and enquiries made. From this date she was medically attended, but it was not until the 18th that the case was reported as typhus, although it was afterwards ascertained that the patient had been out of sorts from the 11th, and treated at first for bronchitis. There is not much difficulty, therefore, in connecting this unfortunately fatal case of typhus with the Globe Yard group.

Next day (August 19th) we heard of a child of fourteen in Clarkson's Yard, Quarry Hill, who had been ill from the 13th of August. We isolated the patient and her family. Information received here led us to make a call at a bottle dealer's in Malt Street, to be presently mentioned. We were told at the time that this girl, who, though a servant at Malt Street, was a mere child, was in the habit of playing with the H.'s at 45, Globe Yard. We have already seen that a case of "tonsillitis" occurred in that house on the 16th of July, and that cases had occurred in the yard (if we are right in assuming that Mrs. G., who died on the 20th, really had typhus), probably from the middle of June. Clarkson's Yard is almost across the street from Globe Yard. At any rate the fact

seems clear that there was intercourse with the occupants of infected houses in Globe Yard.

On the same day (August 19th) we removed, from Lloyds' Arms Yard, York Street, to hospital, the wife of a man travelling to fairs with roundabouts from Manchester. The husband and a fellow-lodger were isolated in the cottages. We could not trace any contact between this woman and any of our previous cases. She had nothing to do with the show, although she looked down occasionally. There was a man named Welsh in the lodging-house, of whom we lost sight; the other inmates we visited daily, paying for their lodgings on condition they came back nightly to roll call.

On the 20th, another charwoman, working at a house in Back Nile Street for four weeks previous to the 14th, was removed to the hospital from Bridge Court, Leylands, and her companion to the sanatorium. Patient is said to have been at the house of the bottle dealer in Malt Street, already referred to, and to be mentioned more fully in the next paragraph. The date given us was localized as between the 2nd and the 8th of August. She was also, through her house-mate and some near neighbours, in contact with Israel R. and his family.

On the same day (August 20th) two cases in Malt Street were declared to be typhus. On visiting this house, as already mentioned, in consequence of information gained at Clarkson's Yard, I had found the man in bed. He had been ill from the 6th of August, and a child of thirteen, in the same small room, had been ill some six weeks. The girl of fourteen, in Clarkson's Yard, had been ill from the 13th of August, and at the date of our visit on the 19th, was said to have been away from Malt Street for a week. She was probably not there after the 12th of August. She therefore probably received her infection from the child who had been ill six weeks. So that the case in Clarkson's Yard, Quarry Hill, may have arisen from the first Malt Street one. This earlier case had been taken to the Dispensary by the Clarkson's Yard girl. The case was entered as bilious fever.

It has been already mentioned that the girl Prudence W., who acted as servant, or nurse, at Malt Street, was friendly with the H.'s in Globe Yard, and it is not improbable that Kate M. may have accompanied her (as Globe Yard was near Clarkson's Yard), even into Globe Yard itself. We have no exact date of Kate's attack, and have put it down as possibly about the 9th of July. As said earlier, Mrs. G.'s illness commenced on the 16th of June, and other members of her family at Hunslet, on July 11th. Sam H.'s illness commenced about the 16th of July, and Luke O'N.'s illness about the 11th. If the incubation period of typhus be about nine days, it is probable that there was infective material at that period in the neighbourhood of Globe Yard, and round the "Globe Inn," which both Luke O'N. and Mrs. G. are said to have frequented. Mrs. G.'s children were not taken ill in Globe Yard, but in Hunslet.

The bottle dealer was sent into hospital, the girl, and the only other inmate of the house, a boy of five, to the cottages. Of course, in both cases person and garments were disinfected. They arrived in the afternoon (accompanied by their married sister), they undressed, and their clothes were removed for disinfection the same evening.

The interesting point about the next case is that the patient was the married daughter of this bottle dealer in Malt Street. She lived in Orange Street (off York Street). When she heard of our call on the 19th, she visited her father next day. Both her husband and she herself declare that she was only in the house on that one occasion, there having been some coolness between father and daughter, and that it was only when she heard he was seriously ill that she went to see him. As she had been in the house she was sent to the sanatorium for isolation, as just said, on the 20th, along with her brother and sister. On the 29th of August she complained of malaise. The Resident Medical Officer removed her to hospital on the 1st of September, the day of eruption. The time from the 20th to the 29th may possibly therefore be looked upon as the incubation period of typhus. It is not often that one gets an opportunity of ascertaining the length of this period. I refer to this matter later.

On August 21st, a case was reported in Middle Fold, in another house of a questionable character. Here also we removed, as far as we could, the other inmates to the cottages. This woman had been living in Charles Street, Quarry Hill, from 15th to 18th August. Previous to that she had lived in Middle Fold, Mabgate, next house to the one from which No. 5 came. Her illness dated from August 13th, a few days before which time there was infective material at Globe Yard, through which a short cut leads from Charles Street to Mabgate. The "Globe Inn" lies in the direct route.

The same day (August 21st) we had information of two cases at Thornton Street, Kirkstall Road, quite in another part of the town. Both of them had been ill from the 13th of August, and both were removed from the Leeds Workhouse on the 21st. The older of the two, the mother, had acted as charwoman at the bottle dealer's in Malt Street, going backwards and forwards from Thornton Street to Malt Street. The whole of the family at Thornton Street—nine in number—were removed to the cottages. None were attacked.

A case of a child, a Jew, in Malt Street, was reported on the 22nd in the house next to the bottle dealer's. The boy's illness is said to have commenced on the 15th. The family, numbering ten, were all isolated.

A Jewess from Vandyke Street was sent to hospital on the 22nd, and her house-mates, nine in all, to quarantine. Her illness had begun on the 11th of August. She worked at home as a slipper-maker, her work going to Elkan Goldman's, of Millgarth Street. Her father actually worked at Goldman's, and at the same place a house-mate of the boy, Israel R., was also at work. The boy, as we saw, and his family, were in indirect connection with Sarah B., who probably got her infection in Malt Street.

On the same day (August 22nd) an elderly man was sent into hospital from the Leeds workhouse. He had lived at Quarry Hill, a few doors from Clarkson's Yard, and his housemate was persuaded to go to the sanatorium. His illness is said to have commenced on the 17th; he died on the 25th.

Next day (August 23rd) the case of a woman of 70, from Myrtle Street, was reported. Like that of the man last mentioned, her illness had commenced on the 17th; like him she died, but on September 3rd.

The Inspector, when he visited this house on the 23rd, and removed two other inmates to the cottages, was not told that a man of 33, a jobbing painter, also lodged there. After the removal of the inmates the house had been sulphured and locked up. We afterwards learnt that the man returned to find it closed. We tried to find him, but were unsuccessful. It turned out afterwards that he had slept at the Dyer Street model lodging house on the 23rd and 24th, moved to Crampton's, Harewood Street, Vicar Lane, on the 25th; on the 26th he applied to the Infirmary out-patient department, and was notified to us as suffering from typhus, and moved to hospital the same day. His symptoms seem to have actually commenced two days before his landlady was moved, though the eruption did not appear till August 25th. We disinfected by steam his bed, and the beds on each side of the one in which he had slept at the Model Lodging House, and the room, and all the beds in the room, where he slept at Crampton's. We fumigated the rooms both at Crampton's and the Model. We were not able afterwards to trace any case of infection to either of these two lodging houses.

On the 31st of August a case was reported at Templar Street, in a house somewhat nearer Vicar Lane than Malt Street. The attack had commenced on the 19th, but the illness had been concealed. The patient died. Six other members of this Jewish family were segregated at the sanatorium. A case had probably existed at Malt Street from early in July. The father of that patient was attacked on August 6th, and the nurse girl on the 13th. Next door (No. 10) a Jewish boy was attacked on the 15th. A Mrs. C., from a house on the opposite side of Malt Street, visited this patient about the 10th of August. The C's. have since left and cannot be traced.

On the 28th a young woman from Elford Place, Roundhay Road, was taken ill. Her case was reported on the 31st, but she

died on the same day. This family consisting of four, of whom three were tailoresses at Hepworth's, were not removed to the cottages, but were watched at home.

A street sweeper, living in Bowling Green Yard, off High Street, was taken ill on the 26th of August; the illness was reported, and patient removed to hospital on September 1st; he died on the 7th. Three members of the family were isolated in the cottages. Careful enquiry was made from Mr. Hanford as to where he had worked, it having been reported that he swept streets in the Leylands.

We obtained a complete list of the streets in which he had been employed from the 10th to the 28th of August. These included Roundhay Road to the Borough boundary, Meanwood Road, with New Searboro' and Newtown. Occasionally he went to Holbeck or Hunslet with an extra cart, and he was daily working in Kirkgate, Call Lane, New Market Street, Duncan Street, Briggate, New Briggate, Lowerhead Row, Vicar Lane, and North Street. On August 13th he was engaged in the Sheepscar streets, on the north-west of Roundhay Road. This round included Buslingthorpe Court. On the 15th his round included Meanwood Road, Sheepscar, and Buslingthorpe, not including the court of that name. On the 20th he was again at the Sheepscar streets on the north-west of Roundhay Road, his round again including Buslingthorpe Court. The only known case in any part of his regular round was that of the young woman in Buslingthorpe Court, whose illness commenced on August 11th, and who was removed to hospital on August 18th. As just said, he was in the Sheepscar Street district, and, along with a comrade, swept Buslingthorpe Court on the 13th and 20th. He was there again on the 27th, feeling ill at the time. If the incubation be nine days, the infection might have been received about the 17th, but we have no record of his having been in this court between the 13th and the 20th.

One of our night nurses at the tents, attending upon these cases, was taken ill on September 4th, and sent from Beckett Street, where she slept, to Manston tents on the 8th.

Subsequent cases where typhus suspected.

	Name.	Age	Remarks.	Disease notified or recorded.	Address.	Date of attack.
18	Kate M. ...	13	Contact possible with 1 <i>et seq.</i>	(Convalescent. No certificate).	11, Malt Street	July 9 (?)
19	Sam M. ...	44	Father of 18	Typhus	Do.	Aug. 6
20	Mary A. T.	22	Sister of 6	"	Buslingthorpe Court	" 11
21	Charlotte S.	15	Worked for E. Gold- man's; father worked there ...	Typhoid	Vandyke Street	" 11
22	Prudence W.	14	Nurse of 18	Typhus	Clarkson's Yard	" 13
23	Mary Wh.	24	Travels with fair ...	Typhoid	York Street	" 13
24	Polly R. ...	30	(? Globe Yard) ...	Typhus	53, Middle Fold	" 13
25	Ada T. ...	43	Charwoman to 19 ...	"	Thornton Street	" 13
26	Florence T.	12	Daughter of 25	"	Do.	" 13
27	Mary McD.	37	(? By children from 6 and 8)	"	Off Street	" 14
28	Barnet, A.	9	Neighbour to 18 and 19	"	10, Malt Street	" 15
29	Israel R. ...	16	Member of family works at E. Gold- man's with No. 21; contact with No. 30	"	Gower Street	" 16
30	Sarah B. ...	24	From 18 or 19	"	Bridge Court	" 16
31	John Fl. ...	78	Neighbour to 22	"	21, Quarry Hill	" 17
32	Mary F. ...	70	(Leylands)	"	Myrtle Street	" 17
33	Fanny J. ...	30	Near neighbour to 18, 19, and 28 ...	"	Templar Street	" 19
34	Walter C. ...	33	Lodged with 32	"	Myrtle Street	" 21
35	William B.	44	Boot rivetter, Lower- head Row	Pneumonia	4, Wheeler Row	" 22 (?)
36	James A. ...	39	Scavenger of court where 20 lived ...	Typhus	Bowling Green Yard ...	" 26
37	Jessie S. ...	33	Daughter of 19	"	Elford Place	" 28
38	Mary A. W.	21	Nursing Typhus	"	Orange Street	" 29
39	Charlotte F.	33	Related and neigh- bour to 35	Typhoid	Fever Hospital	Sept. 4
40	Mary A. H.	26	Niece of 35, related to both	"	Wheeler Street	Oct. 7
41	Ellen B. ...	9	Attended on 35	"	12, Brown Street	Nov. 13
42	John M. ...	27	Mother of 41	"	Public Dispensary	" 16
43	Annie B. ...	34	Brother of 35, father of 41, husband of 43	"	12, Brown Street	Dec. 11
44	Isabella B.	19	Cousin to 41, niece of 44	Typhus	Do.	" 13
45	Henry B. ...	40	Brother to 35 and 44	"	4, Wheeler Row	" 15
46				"	12, Brown Street	" 17

The dying out of the disease. After this we heard of no ease till the 16th of October, when a tailoress, working in Upper North Street, was reported as ill at Wheeler Street, Bank. We were unable to connect her illness with any of the previous eases. It had commenced on the 7th of October. She was taken to hospital on the 16th, and her father was isolated from the 16th to the 30th.

The next case was a particularly painful one. With the exception of the one last mentioned, we had heard of no new ease of typhus, outside the hospital, occurring later than the 31st of August. On the 16th of November a young medical man, appointed a few weeks earlier to the Dispensary, was taken ill. He was removed to the Infirmary. On the 21st his ease was notified to us as one of typhus, and we were asked to remove him, which we, somewhat unwillingly, did next day. Unfortunately he died, on December the 2nd. The question of his infection is referred to later.

Between the 16th and 19th of December we heard of four other eases. On the 16th a woman was sent into hospital from 12, Brown Street, Bank. Her illness, which was certified as typhoid, had commenced on the 11th; she was removed to hospital the day we heard of it. The following day a man of 40 in the same house, whose illness is said to have begun only on that day, was also sent into hospital, and five other members of the family to the cottages. It was found that one of these five had been ailing from December the 13th, and the following day (December 18th) he was transferred to hospital. All three eases were clearly eases of typhus.

We had, however, admitted (as a ease of enteric fever) a girl of nine, from this house, on the 25th of November. From Mr. Pearson's notes, I find that there was a history of an illness commencing with severe frontal headache and vomiting on November 13th. She went to bed on the 15th, was seen by one of the Dispensary medical men (not Mr. Mace) on November 16th. He certified the case as one of enteric fever on the 23rd—the certificate reaching us the evening of the following day. She was removed to hospital on the morning of the 25th. The Resident

Physician tells me, also, that on admission she was anæmie, with feeble, quick pulse, but a temperature practically normal, and no sign of rash. Her temperature continued normal, or sub-normal, during the time she remained in hospital. As there was no reason at that time to suspect typhus, the case was allowed to remain on the books as one of enteric fever, as certified. The illness was regarded as having been of an abortive type. The subsequent history of the family, however, and the relationship of this family to the patient from Wheeler Street already in hospital, and to the other patients in the same house, and her cousin in Wheeler Row, lead both the Resident Medical Officer and myself to regard the disease as having been possibly a mild attack of typhus. Unfortunately, the case having been regarded at the time as one of typhoid, only the personal and bed clothing of the patient were removed for disinfection. Three rooms were stoved with sulphur, but, had we suspected typhus, the clothing of every member of the family would have been properly disinfected. On the 19th a young woman of the same name, and actually cousin to this child, and niece to the two men in the Brown Street house, was removed from Wheeler Row, Wheeler Street. Her illness, which had begun on the 15th, was reported on the 19th, the day when she went into hospital. Five other members of the family went for twelve days to the sanatorium. The patients in Wheeler Street, Brown Street, and Wheeler Row, not only lived near, but, as just shown, were related to one another. We heard of no further case after this date till the third quarter of 1897.

Where did Mr. Mace receive the infection? It has already been said that this young doctor was attacked on November 16th. At the time, we were able to trace no connection between his case and any already known. It turned out afterwards that he attended a man said to have suffered from pneumonia in the house in Wheeler Row, in which a clear case of typhus subsequently occurred. This man, father of the young woman in Wheeler Row, and brother of the two men in Brown Street, was said to have been ill for about seventeen weeks,—dating back from the 19th of December that would take us to the latter part of August. Mr. Mace came

on duty at the Dispensary on September 30th, and may, therefore, have attended this patient some six weeks before his own illness began. It seems not improbable that some unrecognized case may have connected the Wheeler Street, Brown Street, and Wheeler Row cases. It may, possibly, have been this supposed case of pneumonia. Mr Pearson and I had, on the 23rd of November, visited all the houses where we knew Mace had been attending patients, without finding any case we could regard as having been clearly one of typhus. My own illness had already commenced on that date, and my personal recollection of events, subsequently, is worth very little. By careful study of information obtained at the time, and collected for purposes of this report, I am able, however, to place certain events apparently connected with this later outbreak in chronological order, as follows :

August	22.	Wm. B. (<i>at</i> 44), 4, Wheeler Row ; taken ill about this time ; "pneumonia.
September	30.	J. Mace (<i>at</i> 27), Began work at Dispensary ; attended Wm. B. ; dates uncertain.
October	7.	Mary H. (<i>at</i> 26), Wheeler Street, relation of Wm. B. ; taken ill.
"	15.	" Certified "typhoid" (Dr. O'N.).
"	16.	" Certificate received ; patient removed as typhus.
November	13.	Ellen B. (<i>at</i> 9), 12, Brown Street ; headache, vomiting.
"	15.	" In bed.
"	16.	" Seen by Dr. Ph.
"	16.	J. Mace ... Attacked.
"	20.	" ... Certified "typhoid" ; sent to General Infirmary as such.
"	21.	" ... Certificate "typhoid" received.
"	22.	" ... Removed from Infirmary to Beckett Street hospital as typhus.
"	23.	Ellen B. ... Certified "enteric" (Dr. Ph.).
"	24.	" ... 4 p.m., certificate, as above. received, asking for removal.
"	25.	" ... Removed to Beckett Street hospital as enteric.
December	2.	J. Mace ... Died.
"	10.	Henry B. (<i>at</i> 41), 12, Brown Street, uncle of Ellen ; "tired" week before December 17th.
"	11.	Annie B. (<i>at</i> 34), 12, Brown Street, mother of Ellen ; headache.
"	13.	John B. (<i>at</i> 34), 12, Brown Street, father of Ellen, brother of Henry, husband of Annie ; headache.
"	15.	Isabella B. (<i>at</i> 19), 4, Wheeler Row, daughter of Wm. B., cousin of Ellen, niece of Henry and John B. ; taken ill.
"	16.	Annie B. ... Certified "typhoid" ; seen R.M.O. at 12, Brown Street ; sent to hospital as typhus.
"	16.	John B. ... Backache ; 17th to cottages.

December	17.	Henry B.	...	<i>En route</i> to cottages, seen by R.M.O., and admitted to hospital as typhus; eruption.
..	18.	John B.	...	Hospital, as typhus.
..	19.	Isabella B.	...	Seen Wheeler Row, R.M.O., sent in as typhus.

I should like here to express my obligation to Mr. Pearson, of the fever hospital, who acted as deputy M.O.H. during my illness, and who had also, during my absence in Glasgow at the end of July, seen the earlier cases, and taken prompt measures for their isolation, as well as for the quarantine of other members of the family.

The incubation period of typhus. The case of the young woman, Mary Ann W., daughter of the bottle dealer in Malt Street, would seem to afford an opportunity of getting, with some approach to definiteness, at the incubation period of typhus. It is the only one amongst the cases reported where it would seem as if we could limit the intercourse with the infected person to a definite period. As already stated, the patient lived in Orange Street, nearly a quarter of a mile away from her father's house. If the information given us can be relied upon, she had not been at that house, at any rate for many weeks, until the morning of Aug. 20th. On the afternoon of that same day she was taken by us to the cottages, where she and her brother and sister undressed, and their clothes were removed for disinfection the same evening. We were not able to ascertain that she, or her husband, had been in contact with any member of any infected family. We had had no case at that time nearer to Orange Street than those in Off Street and Lloyd's Arms Yard, upwards of 200 yards away, and in all these cases we had removed those whom we knew to have been exposed to the infection. In the former case, however, though the patient was taken ill on the 14th, we were not on the spot till the 17th, when we cleared the premises. In the latter, illness began on 13th, removal of family was on 19th. In neither case could we trace any connection with the Orange Street family.

Of course, though all three, Mary Ann W., her brother, and sister, had baths, and their clothes were removed, we cannot altogether exclude the possibility of a later infection from the

sister,—Kate. This girl's illness had commenced about the 9th of July, but the date is somewhat indefinite. She was convalescent at the time she went to the cottages on Aug. 20th, and as already said, personally disinfected the same day.

Disregarding this, however, it seems not unlikely that Mary Ann W.'s exposure to infection was only on the morning of the 20th. Her malaise began on the 29th. The incubation period would thus appear in her case to have been not more than nine days, and, unless the infection arose from her convalescent sister later, not less than the same period. The great difficulty usually in arriving at a correct estimate of the length of the incubation period is, that after persons have been removed from contact with the sick, their contaminated clothes are often worn for some days. This source of fallacy was not present here.

No other case so nearly fulfilled the conditions requisite to enable us to calculate the length of the incubation period. The following notes may, however, be put on record :—

Hetty P. (No. 11 in table on page 62) was the nurse of O'N. (No. 5) in the Infirmary, to which he was admitted on July 20th, and from whence he was removed on July 31st. We do not know the exact date that she began to nurse him, but it was not, of course, earlier than the 20th. He was removed to hospital on the 31st. It is presumed that her clothes were efficiently disinfected at the Infirmary by steam. Her illness commenced on the 8th of August. Her incubation period may, therefore, have been as short as eight days. In the other direction we cannot limit it exactly, except, of course, that it could not well be longer than nineteen.

Mary Ann T. (No. 20 in table on page 70) was certainly exposed to infection on the 1st of August. Her illness commenced on the 11th. It is probable, however, that she was back in the infected house in Globe Yard later. We were told that this happened on Monday, August 3rd. The incubation period here might, therefore, be ten days if she received the infection on August 1st, eight if on the 3rd. If, however, as is quite possible, she had been in contact with other members of the infected families in Globe Yard during July, the incubation period might be longer.

Mary McD. (No. 27). If the infection in this case was, through her children, from Globe Yard, it may have occurred as late as the 10th of August, the day on which the family at No. 45 was quarantined. Her own illness began on the 14th. It is probable, therefore, that if the infection arose in this way, it had a date earlier than August the 10th.

Sarah B. (No. 30) was taken ill on the 16th of August. She was at the bottle dealer's house in Malt Street on some date between the 2nd and the 8th of August. This would limit the incubation period to from eight to fourteen days.

Fanny J. (No. 33): Patient's illness began on the 19th of August; she had been visited by a woman from Malt Street on the 10th. If this were the source of infection, the incubation period would be nine days. As, however, her house was near Malt Street, and some of those attacked there were Jews, and some of her children were at Gower Street Board School, and in the same standard as children from 10, Malt Street, there may have been intercourse, of which we have heard nothing.* This date, however, was voluntarily given to us by a neighbour, who knew nothing about incubation periods.

If in nurse P.'s case disinfection of her clothing was effected the day her patient was removed to Beckett Street, we may regard her incubation period as not having exceeded eight days:—that is to say, her illness began on the ninth day from the date she was last exposed to infection. In Mary Ann W.'s case, on the contrary, the attack began on the tenth day from the first, and perhaps the only exposure to infection.

Localization of the outbreak. In 1890 the first case of typhus heard of occurred in Upper Cornhill, and was traced to infection from a group of cases subsequently discovered in Allison's

* F. J. had two children at Gower Street, one in Standard III., one in Standard V. The family at 10, Malt Street, had four children at the same school, one, the patient, in Standard III., another in Standard V., the others younger. The patient there (Standard III.) began to be ill August 15th. From 14th to 19th is short for incubation period, but as eruption is not stated to have been seen (perhaps not looked for) till 27th, the illness may really have commenced later than 19th. On the other hand, if the children were playmates, the Templar Street children may have been at 10, Malt Street, or even in No. 11, where a case had probably existed from the beginning of July.

Buildings, Charles Street. In this yard an unrecognised case had occurred, and nearly all the other cases were apparently traceable to this one. This yard has three openings, one, short and broad, into Charles Street, and two, long, steep, and narrow, into Quarry Hill; one of them at the back of Baxter's Yard, and between that yard and a group of dilapidated houses that were closed by the Corporation many years ago, the other, a passage, leads by steps to Globe Yard, and enters Quarry Hill close to the Globe Inn. It was to a house in Globe Yard that many of the cases in the 1896 outbreak were traceable, directly or indirectly. It was in this yard that the woman died from delirium tremens on the 20th of June. It was from this yard and her house that the family taken ill at Hunslet had migrated. With the exception of the Infirmary case from Middle Fold, all the earlier cases occurred amongst persons who lived, or had recently lived, in this yard, and this Infirmary patient is said to have frequented the Globe Inn. From this yard the woman in Buslingthorpe Court received her infection, and from her, probably, the scavenger in Bowling Green Yard. The second case in Middle Fold, and, possibly indirectly, through her children, the woman in Off Street may have received their infection from persons in this yard. The girl in Clarkson's Yard, on the opposite side of Quarry Hill, was in the habit of playing with children in this yard, and it is therefore probable that the three Malt Street cases had their origin from this centre. From Malt Street, as a secondary source of infection, it is probable that the case in Bridge Court, and from her the lad in Gower Street, and, possibly indirectly, the girl in Vandyke Street, were infected. From Malt Street, also, through children or neighbours, the Templar Street case probably had its origin, and the girl in Orange Street pretty certainly received her infection from her father in Malt Street. To infection from the same house the two cases in Thornton Street, Kirkstall Road, were distinctly traced. Either from Globe Yard itself, or from intercourse with Clarkson's Yard, it is probable that the old man in Quarry Hill received the poison.

It is not easy to account clearly for the two other Leyland cases, the woman and her lodger in Myrtle Street, but as both

houses in Middle Fold were of somewhat uncertain character, and probably had at times more occupants than were admitted to us, it is not impossible that some visitors there, or some person keeping company with some of the inmates of these houses, may have conveyed the infection indirectly. How easily this might be done is shewn by the difficulty we had in following up the man who lodged at this house, and of whose existence at the time we visited, we were not informed. The information came to us afterwards.

The cases occurred as follows, referring each case to the address of the house in the town where the patient had last resided before being sent into hospital:—Of the 42 cases, 38 had occurred in the Eastern Division, and 4 in the Western. In the Central Ward there were 11, of whom 3 died. In the North Ward 5, of whom 1 died in hospital, and 1 died at home before the case was reported. We were not able to trace the origin of this case, and the medical men who saw the patient were in some doubt as to its real nature, though they wisely thought it better to inform us of it. Twelve of the cases occurred in the North-East Ward, where the former outbreak had occurred; 2 of them were fatal. Five occurred in the East Ward; of these 1 died. The South Ward had no case. From East Hunslet we received 5; they had only recently come to this district from the North-East Ward. If we refer them to that Ward, it makes the North-East district number 17. These 5 all recovered. In West Hunslet and Holbeck no case occurred. In the Western Division 1 case occurred in the General Infirmary (Mill Hill Ward). This was the nurse who attended the man No. 5 in the list. In the West and North-West Wards no case occurred. In Brunswick Ward there was 1 case—in Buslingthorpe Court—the young woman recently married from Globe Yard; she died. Adding this case to those originating in the North-East Ward it makes the number of cases there 18, and the deaths 3. New Wortley, Armley and Wortley, and Bramley had no case. In Headingley there were two cases, the woman and her daughter who worked at Malt Street, in the Central Ward.

Altogether, amongst the 42 cases known to have been typhus, there were 9 deaths. The 46 in the table contain the death

certified as delirium tremens, the case treated as tonsillitis, the child who went into the hospital with what appeared to be an abortive attack of typhoid, and her uncle who was supposed to have had pneumonia. To these we might, perhaps, add the man from Middle Fold, whose illness was heard of afterwards, and who was not medically attended at all.

The big insanitary area. The neighbourhood of Globe Yard, as just said, was that in which the 1890 outbreak had occurred. It was this outbreak which led me to represent to the Sanitary Authority the desirability of dealing with this district as an insanitary area. At that time the desirability of running a street through from St. Peter's Square to Regent Street was suggested. The Committee regarded this idea favourably, but as scarcely sufficient, and at their request the mortality of a larger area in the neighbourhood was investigated, and afterwards my representation was upon the enlarged area, which had a death-rate of about 35 per thousand. This larger area, however, was too extensive to be dealt with at once, and, principally on engineering grounds, it was divided into four sections, any one of which, when completed, would form part of a general scheme, but each of which could be dealt with, from an engineering point of view, irrespective from any of the others. The two southernmost of these sections were afterwards selected as the most convenient to be dealt with at first. The Provisional Order for doing so, which was opposed in both Houses of Parliament, was afterwards confirmed. This process is necessarily slow. It was when we were actually fighting in the Houses of Parliament that the outbreak of 1896 occurred. The difficulty in dealing with the particular part of the district in which typhus has now twice occurred is principally an engineering one. It would be possible to considerably diminish the number of houses, but it would not be desirable to re-construct, except as part of a larger scheme.

A possible ambulant case. It will be remembered that the second case in Middle Fold had lodged from August 15th to 18th at Charles Street, although her first symptoms began before the

earlier of these dates. The direct way from Charles Street to Middle Fold, where she had previously lived, was through Globe Yard. There is, however, another way of accounting for her infection. She was on intimate terms with a man, William M., at the Middle Fold house. We afterwards learnt that this man, William M., his own being in pawn, had put on some clothes which had been removed from the next house in Middle Fold before the disinfection consequent upon our hearing of Luke O'N.'s case, and without our knowledge. These clothes must have been removed about the end of July, certainly previous to July 27th and 28th, the dates we disinfected all articles in O'N.'s house. The date he wore these clothes we do not know. It is said that afterwards he had headache and a rash. He was in Arnley Gaol from August 21st to the 26th. Polly R.'s illness began on the 13th. She probably received her infection about the beginning of August, and it is not improbable she got it from this man. It is also not improbable that he himself had a slight attack of typhus about the same time.

As far as possible, pledged articles from infected houses were followed up, but it is not always easy to hear of articles of this kind. This case is interesting as showing that a man was probably moving about with the disease upon him. Had he been laid up in bed at Middle Fold we should have heard of him when visiting. It seems not improbable that some undiscovered case was the common source of infection for No. 1 and No. 5.

The difficulties of diagnosis. Typhus has become so rare a disease, and is so little expected, that even medical men of great experience do not always easily recognise a case when they see it; and as it occurs chiefly in low neighbourhoods, where medical attendance is only sought in the more serious attacks, it is easy to understand that slight cases may altogether escape observation. In the 1890 outbreak the case we afterwards regarded as the earliest known in Leeds, had been looked upon as one of pneumonia, although the temperature had been taken regularly during the second week of the fever, and fallen on the thirteenth or fourteenth day of the illness, and though there was no consolidation

of the lungs. The house in which it occurred was too dark, and the patient too dirty, to make the search for mulberry spots on the abdomen at all likely to be successful. It has also to be remembered that the eruption in typhus is not always a very marked feature. In the 1896 outbreak, had the suspicions of the medical men attending the Hunslet cases and the ease at the Infirmary not been aroused, the mischief might have gone much further before it was discovered.

General resumé of work done. In each case the patient, as soon as the disease was reported, was removed to hospital. Our accommodation at Beckett Street was too limited for the eases, and, the weather being suitable, Mr. Pearson wisely suggested the use of some of the tents which we had procured on a previous occasion for small-pox. One of these had not been used, and those which had had been disinfected. The former, however, sufficed.

The cottages at the sanatorium were of the greatest service, and particulars have already been given in most eases as to how many members of the several infected families had been isolated in these convenient and comfortable dwellings. The condition of things in these cottages was very much more favourable than when the 1890 outbreak had occurred, and we had to use the scanty accommodation at Ivy House. During 1896 we were generally able to devote a whole cottage to a family, and the risk of any member of that family developing the disease while under observation, and of its being communicated to any other family, was practically *nil*. I should, however, remark that no such communication of disease occurred even in the Ivy House days.

In addition to the removal of members of infected families, a sanitary patrol was established in the neighbourhood in which our eases had occurred, and the information thus obtained as to visitors and others at the houses was more complete than on the previous occasion. On the other hand, it is probable that we did not, in this outbreak, get hold of the earliest case at all.

The disinfection of the houses was carried out in the usual manner, each house being emptied, sulphured, linewashed, and

cleansed. All textile fabrics were taken to the steam disinfectors at Burmantofts.

HOUSE CONDITIONS.

It may be said in this particular, that closeness, overcrowding, and dirt were clearly elements in the development, especially of the earlier cases. The three houses, for instance, in Globe Yard, were old, low, ill-ventilated properties. The yard itself was close and narrow, the rooms in the houses low, and considerably overcrowded. In one or two cases there was an opening from a back room into a narrow space between the house itself and one of the old buildings already referred to. This space was only enterable from the back of some houses in Quarry Hill, but was considerably defiled. Some rooms in the Globe Yard houses only looked into this space, which was itself badly ventilated. The houses in Middle Fold were both of the back-to-back type. The street itself, though called a "fold," was open at both ends, and not narrow compared with many old parts of the town. The house in Hunslet, in which so many children were attacked, was comparatively modern and airy. It was in a district in which, some six or seven years ago, typhoid was prevalent, but not one where one would expect to find typhus. The drainage from the houses is flat, but on the whole in working order, and the measures taken, when typhoid arose in that district, seem to have been attended with success. Phillip's Yard, Off Street, is in the area which is now being dealt with as insanitary. Most of the houses in this yard, and in the front street, are let off as apartments, and naturally have a frequent change of tenants. The room used by the patient was close, and wanted air. The woman and her three children had one room, 14 × 13 × 8, and the room was entered from another used by a man and his wife. The house in Lloyd's Arms Yard was a lodging-house registered for twenty, but had only sixteen occupants at the time of the attack. It was approached from an entry. Clarkson's Yard is a narrow one, on the left-hand side of Quarry Hill, going up. Gower Street, Myrtle Street, and Vandyke Street are old-fashioned narrow streets in the Leylands. The whole of this district is thickly populated, principally by Jews, and

during the last few years a large number of immigrants have arrived from Russian Poland.

Omitting the three patients who suffered, as it were professionally, in the outbreak—our own nurse, the Infirmary nurse, and the doctor from the Dispensary—there were 39 cases recognised at the time, or shortly after, as typhus. These are exclusive of the case of delirium tremens—the case of tonsillitis—the case of pneumonia, and the case of typhoid, No. 41 in the table. There were other cases in the houses in which the three latter occurred, and the Hunslet family had recently removed from that in which the patient died delirious—(this is referred to later). In respect to the remaining 39 cases, the house conditions, except as to inmates and rooms, are repeated for each case that occurred—that is to say the following information applies chiefly to “ease-houses.”

Inmates and rooms. The actual houses in which the 39 cases occurred were 23, and the rooms in them 70, an average of just over three rooms to a house (3.04). The houses may therefore be regarded as small. In these 23 houses there were 147 inmates, an average of 6.4 inmates to a house and 2.1 persons to a room. We have generally regarded a house where there was an average of three persons to a room as “crowded,” and as “overcrowded” if there were more than three. We include in the calculation all habitable rooms such as kitchens, but not sculleries or coal cellars.

Comparison with houses where typhoid, measles, and fatal diarrhoea had occurred. In various reports, ranging from 1891 to 1895, you have had statements as to the number of inmates in some 1,393 houses, in which cases of typhoid occurred. Of these, 840 were in the pre-notification, and 553 (that is, those during the year 1895 and the latter part of 1894)* in the period subsequent to compulsory notification. In the former group each house had an average of 5.83 inmates and 3.85 rooms, giving a density of 1.52 persons to a room. In the latter (the 1894-5 cases) each house had an average of 5.60 persons and 4.01 rooms, thus reducing the number of

* The tables for 1896 and 1897 are not sufficiently advanced to enable me to give the corresponding figures for those years.

persons per room to 1.40. It was, of course, to be expected that when it became compulsory to notify cases of typhoid, we should have a greater number reported in larger houses than when notification was voluntary, and to a large extent restricted to patients likely to be removed to hospital. Combining these two sets of figures, the number of persons in typhoid houses, from 1891 to 1895, averaged 5.74, and of rooms, 3.91,—the inmates being thus 1.47 to a room. In typhus, on the other hand, we have just seen there were 6.4 inmates to a house and only 3.04 rooms, more inmates and fewer rooms, and giving an average of 2.10 persons to a room.

In the case of measles, figures are referred to in another part of this report dealing with 2,536 actual houses, visited by our inspectors from 1891 to 1896. Amongst the recovery group (actual houses 1,319), each house had an average of 5.94 inmates, and 3.60 rooms,—the number of persons to a room averaging therefore 1.65. Amongst the death group (actual houses 1,217), the persons were 5.90, and the rooms 3.22 to a house,—the number of inmates to a room being therefore 1.83. The number of inmates to a room was thus fewer even in the death group than in the typhus houses.

Amongst 1,964 actual houses investigated in which fatal cases of diarrhœa occurred from 1891 to 1895, and which included, during the periods dealt with, practically all the houses in which diarrhœa was fatal, the proportion of persons to a house was 5.67, of rooms to a house 3.27,—giving an average of persons to a room of 1.73. Here also it is obvious that not only were the houses in which fatal diarrhœa occurred a little larger than the average of the 23 in which typhus was discovered, but the number of persons to a house was fewer, as also the number of inmates to a room.

In none of these three diseases, therefore, has the density of inmates equalled that of the typhus houses. Even in the houses in which death occurred from diarrhœa, including of course some of the poorest in the town, the number of inmates to a room was considerably less than in these 23 houses. Even selecting from the measles houses those in which fatal cases occurred, the number of persons to a room was again less than in the houses in which

typhus had occurred, and this was more markedly the case in the typhoid houses.

Size of dwellings. Even this does not indicate the density of population in these houses, for no account is taken of the size of the dwellings. Unfortunately, although the houses are measured in every case examined, we cannot, without referring to the original returns, get at the average; but in regard to the 23 houses, the average floor space of the room in which the patient was found was 162 sq. ft., and the average height of the room 8ft. 7in., and as it was generally the largest and not the smallest room that the patient occupied at the time of the visit, an idea of the size of most of these dwellings can be formed. The cases that occurred in Hunslet are counted as if they had originated there instead of Globe Yard. The house, however, from which they were removed was larger in area, though it had the same number of rooms as the Globe Yard house.

Through houses. Of the 39 case-houses, 1 had a through draught, 36 were back-to-backs, and 2 were single houses without aperture in the rear wall. The proportion of through houses was, therefore, 2·6 per cent. of the 39. The average proportion found in the case-houses dealt with (table 25) is found, from the manuscript addition to that table, to be 28·0 per cent. The through houses were therefore 90 per cent. below, and the non-through 17·7 per cent. above those of which we have an available record. The Hunslet house, like the Globe Yard house, was a back-to-back one.

Drainage. Of the 39 case-houses, 22 came into the list of those well-drained; 17 were badly drained. In this instance, as none of the houses had inside water-closets, that means that 22 case-houses had all their drains cut off outside the house, that 17 had not, or in the proportion of 56·4 and 43·6 per cent. The proportions amongst the whole 17,502 cases, in table 25, during the five years 1892-6, were (well-drained) 40, and 60 (badly drained) per cent.

The disparity between these numbers is even greater, if we transfer the five patients taken ill in the Hunslet house, which

though a better house as regards air space, and situation, was worse as to drainage, inasmuch as the inmates were only protected by a trap. If we transfer these five cases, the numbers become 27 in well-drained, and 12 in badly drained houses, or 69·2 per cent. of the former to 30·8 of the latter, more than reversing the position of well-drained and badly drained houses found in visiting, on account of other diseases. The numbers are too small for any very great importance to be attached to them, but the conditions, so far as they go, confirm the general opinion of the profession that typhus is not a disease in any way connected with drainage. The reason, of course, that so large a proportion are well-drained, is that they are in the low parts of the town, which have been specially attended to in regard to disconnection from the sewer. These people lived, in fact, in houses which had been "put right," as far as drainage was concerned.

Closet accommodation. Eight of the 39 houses had the use of water-closets, in this instance all outside the dwelling, 28 of trough water-closets, and 3 of middens. These numbers are 20·5, 71·8, and 7·7 per cent. of the 39 respectively, and differ considerably from those found in the town, as a whole, which are approximately 36·6, 24·4, and 39·0 per cent., again showing that the houses affected were in the low parts of the town, but, at the same time, in those parts from which the old nuisance of the midden privy had been to a large extent removed. In fact, there was evidence on every hand of the activity of the sanitary authorities in regard to these dwellings.

General remarks on the housing of these people. We may, perhaps, with advantage recapitulate a few of the points brought out in regard to the houses where typhus occurred. These houses existed in the part of the town in which water-closets were not prevalent, and at the same time a part of the town in which the old midden had been replaced by the latrine. In the same way the wastes had, in a larger proportion than is the case in the town generally, been carried outside the house, and there disconnected from the drains. These things show evidence, as already said, of

the attention these dwellings had received from the Corporation. On the other hand, the houses were smaller and more crowded than throughout the town, and, though I cannot so well prove this from figures, they were houses in yards and narrow streets rather than in the open parts of the city. Almost all the houses from which cases were taken were within the area officially represented by me on the 26th of February, 1895, and details as to conditions, of which were given in the annual report for that year, page 100, as well as at page 94 in the report for 1891. Some important information in regard to parts of this large area was also given at pages 3 to 7 in the annual report for 1890, as well as in the special report on the outbreak of typhus in 1890, laid before you in June of that year.

ENTERIC (OR TYPHOID) FEVER.

It has been already shown that during the years 1895, 1896, and 1897, during the whole of which typhoid has been notifiable, the number of cases reported has slightly increased, the numbers (see table on page 53) in the second of these years being nearly four per cent. in excess of those in 1895 and those in 1897, a little over 9 per cent. above that in 1896. When, however, we compared these years in regard to the death-rate, we saw that the deaths had been 85, 77, and 83. The increase of cases in 1896 was accompanied by a lower death-rate than in 1895, and the deaths in 1897, though more numerous than in 1896, were less so than in 1895, when a smaller number of cases were reported.

Is typhoid on the increase? The number of deaths in the three years, though slightly higher than the average in the preceding five, did not in any one of these years rise so high as happened twice in the earlier period. The year 1894 happened to have a low rate of mortality. If that year be added to the three, and the division of the eight be made in the middle, it will be found that in the first four years of the present decade there were 336 deaths from typhoid, in the four later, 295; so that it cannot be said that typhoid fever is increasing. It is unnecessary to emphasise this point, as it is practically already dealt with at pages 55 and 56,

where it is shown that the continued fevers, of which typhoid is by far the most important to us, have been decreasing from decade to decade, and in the latter half of the past eight years as compared with the former.

It is probable that the increase in the number of cases in the third as compared with the second, and the second as compared with the first year of notification is, to some extent, due to the greater readiness on the part of medical men to notify these cases. There seems always a slight tendency, when notification is adopted in a town, towards a greater definiteness of diagnosis, and a medical man having committed himself to the statement that a case is one of typhoid fever when alive, is apt to certify the death as due to that cause if the case prove fatal. On the other hand, if he has left the matter open, and there is some doubt about the nature of the case, he may certify the death as due to some collateral cause of death. A certain number of cases are sent to hospital as typhoid that turn out to be cases of other diseases. It is better that we should have these cases under our observation and treatment than that the public should run the risk of the disease being spread at home. The patients are isolated from other cases as soon as the error is discovered, and, in a well-managed hospital, the risk of spreading a disease like typhoid from bed to bed is slight.

Localisation of typhoid. Some years ago, we commenced an analysis of the local areas in which typhoid and diarrhoea had been most prevalent. Owing to pressure of work, we have not been able to carry this forward sufficiently to be dealt with entirely in the present report. I may mention, however, that in the latter quarters of 1897, certain parts of the town were more affected by typhoid than others. The district of Woodhouse has, for several years back, suffered more in proportion than the town as a whole, and this was markedly so in the autumn of last year. Careful investigations were made at the time as to any local conditions causing this increase. I had the advantage, in 1897, of the assistance of Mr. Godfrey Carter, who, at my request, analysed for me, on certain suggested lines, the cases that occurred at

Woodhouse in the third quarter of that year. I availed myself of his help in order to have the advantage of the criticism of a fresh mind. A suspicion fell at one time upon the possibility of infection by milk, a large proportion of the cases having occurred in the milk walk of two brothers, who occasionally assisted one another when they ran short. One of these got his milk from a farm outside the town, which, on the whole, was in a fairly sanitary condition, but supplied with water which was, to some extent, polluted. The milk in the other brother's case was obtained from cows in Leeds. A specimen of the milk purchased from the first brother on Saturday night, and kept by him for us till Monday morning, was sent to Dr. Trevelyan for examination, along with another specimen of the Monday morning milk, and a specimen of milk from the brother whose cows were kept in Leeds. In one of the three specimens, that which had been purchased on Saturday night, and kept in the milkman's cellar until Monday morning, a bacillus, resembling in several respects the bacillus typhosus, was discovered, but not in either of the two other specimens. Without placing too much reliance upon an isolated observation of this kind, or laying too much stress upon the Vidal's reaction to typhoid blood, which the bacillus exhibited, it is interesting to note that of the three milks examined it was in the milk which had, from Saturday night until Monday morning, been in the cellar of the milk-vendor's house that this bacillus was found, and, upon testing the drains of this house, the smell of the test came strongly into the cellars in which the milk cans were washed and kept. The drains in this house were not disconnected from the sewer, and on taking them up to re-construct, it was found that they were in a very unsatisfactory condition—passing under the floor from the back of the house to the front, and receiving part of the drainage of the next house. The drains were in some places nearly filled up, and most of the joints were more or less pervious.* Conditions not quite what we should have wished in regard to the milk storage at the other brother's were also discovered and altered.

* See Dr. Carter's paper in *Public Health*, December, 1897, p. 97.

In consequence of the discoveries made, Mr. Walker, the Dairies, Cowsheds and Food Inspector, was asked to get the drains of all the milk-shops in Leeds tested. So far as this has been done, the result is shown in table VIIIA in the latter part of the report, p. 118. The total number examined was 397, of which, in 156, the smell of the test came inside the building (that is to say, in 39·3 per cent.). Rather more than half the milk-shops examined (52 per cent.) were found to be severed in the ordinary way from the sewer, the actual numbers being 207 disconnected, 190 not. Of the former, 45 (that is 21·7 per cent.) were found to admit the smell from the drains on testing. This happened in the milk-shops with undisconnected drains in 111 (or 58·4 per cent.).

TABLE 14b.

Showing result of tests applied to drains in 780 houses, in which cases of typhoid (= enteric) fever were heard of, in the whole group, and separately in the "disconnected" and "not disconnected."

	Houses examined.	Per cent. of larger group.	PERCENTAGE.	
			Found wrong.	Not found wrong.
All	780	—	30·5	69·5
"Cut off"	364	46·7	14·0	86·0
"Not cut off" ...	416	53·3	45·0	55·0

Typhoid was also prevalent in the neighbourhood of Back Ainsley Street, a portion of the town which the Committee have for some time past been considering with a view to certain improvements. In most of the houses where these cases occurred there were drainage defects.

In the district referred to, bounded on the North by Sweet Street, on the East by Meadow Road, on the South by Jack Lane, on the West by Marshall Street—a district containing, at the time of the census, some 859 houses and a population of about 3,587,

and considered at the present time to have rather fewer houses and fewer inhabitants, there were reported, during the third and fourth quarters of 1897, 14 cases of typhoid in nine houses, and during the first quarter of 1898 there were 5 cases in three houses.

As notification has only recently been in force, it is interesting therefore to enquire what the death-rate in this district from "fever" has been. For this purpose we have consulted the local Registrars' returns for Hunslet and Holbeck for the eight years, 1890-1897. During that time, in this district, 6 deaths have been ascribed to "fever." This is equivalent to a death-rate of 0·21 per thousand per annum. The rate was 0·22 in Leeds during the same period. The zymotic death-rate in this district, however, has been higher than in Leeds generally, but the increased rate was due to measles, diphtheria, and diarrhœa, whilst the rate was less from small-pox, scarlatina, and whooping cough.

The whole mortality of this district has been investigated, and the matter will probably be laid before you in a subsequent report. It may perhaps be worth while, however, putting on record here that the death-rate in this district, as a whole, averaged 26·8 during these eight years,—that of Leeds being 20·6 for the same period. The rates in certain divisions of the district averaged from 24 to 35, and it may be taken that generally a patch in the centre had a rate of just under 30 per 1,000, whilst the areas on each side of it had a rate of 25.

HOUSE CONDITIONS.

The examination of drains by tests. It is not proposed to give table 14 in the present report. Owing to the enormous amount of clerical work thrown upon the department by the Notification Act, it has been impossible to get tables of this kind out with the quickness desired. In the supplementary report for 1895, however, your attention was specially directed to the results got by testing the house drains, and four tables (14b, 14e, 14d, and 14e) were given showing what had been found in 390 houses examined by tests during the year 1895, and part of the year preceding. In the present report are similar tables, numbered in the same way, but carrying on the results to the end of 1896.

TABLE 14c.

Similar to last in reference to 69 houses with inside water-closets, showing also the results found on drain testing, where the soil-pipe was fully ventilated and otherwise.

	Houses examined.	Per cent. of smaller group.	PERCENTAGE.	
			Found wrong.	Not found wrong.
All	69	—	42·0	58·0
Drains, other than soil-pipe. "cut off"	42	60·9	31·0	69·0
Do do. "not cut off"	27	39·1	59·3	40·7
Soil-pipe, F.V.	31	—	32·3	67·7
Do. other drains "cut off"	23	74·2	26·1	73·9
Do. do. "not cut off"	8	25·8	50·0	50·0
Soil-pipe, not F.V.	38	—	50·0	50·0
Do. do. other drains "cut off"	19	50·0	36·8	63·2
Do. do. do. "not cut off"	19	50·0	63·2	36·8

TABLE 14d.

Showing percentage of all inside water-closet houses found on testing, to have drain defects; of those with F.V. soil-pipes, and with soil-pipes not F.V.; showing also the proportions in houses with outside water-closets.

	Houses.	Found wrong.	Not found wrong.
Inside W.C. ..	69	42·0	58·0
Outside W.C. ..	193	24·9	75·1
Inside (F.V.) ..	31	32·3	67·7
Inside (not F.V.)	38	50·0	50·0

The analysis is, therefore, of the conditions found in 780 cases in which typhoid fever had been heard of. The methods of examination and classification are similar to those mentioned under the head of diphtheria (p. 44.) Of the whole 780 a little over 30 per cent. were found, when a test was put down the drain, to have some aërial connection with the sewer. The proportion differed according as the houses were what we have generally called "cut off,"—that is to say, every waste carried outside the house,—or not cut off. The 30·5 per cent. found faulty dropped down to 14 per cent. where every waste was disconnected, and rose to 45 per cent. where this was not the case. In saying every waste, I am, for the present, disregarding altogether the treatment of the soil-pipe of an inside water-closet. In this respect, these tables differ from tables elsewhere given in my reports other than those already referred to (14b, etc., and the corresponding tables under head of "diphtheria"). It will be presently seen that special reference is made to these soil-pipes of inside water-closets.

Inside water-closets. Of houses with these closets there were 69 in the period dealt with, including, of course, the 41 in table 14c. on page 73 of the 1895 supplementary report. Of these 69 houses with inside water-closets, 42 per cent. (instead of 31 in the whole group) were found wrong on testing. The 42 per cent. dropped down to 31 where all drains, other than the soil-pipe, were cut off. This, it will be noticed however, is more than double the numbers found in the "cut-off" houses in the whole group. The 42 per cent. increased to 59·3 per cent. in houses where one or more wastes were not cut off. We may again subdivide these 69 water-closet houses into two approximately equal groups, consisting of 31 in which the soil-pipe of the inside water-closet was carried full bore above the eaves of the house, and of 38 in which the soil-pipe of some inside water-closet was not so treated. In the former (the F.V.) group, the smell of the test came inside the house in 32·3 per cent.; while in the latter (or not F.V.) group it entered in 50·0 per cent. When there was an inside water-closet, "F.V." and all other drains in the house "cut off," the percentage was 26·1—still approaching double the percentage found in the

“cut-offs” in the whole group of houses examined on account of typhoid. Where, on the other hand, there was the double danger of the “not F.V.” soil-pipe, and of some other waste, or wastes, not disconnected from the sewer, the test found its way inside the dwelling in 63·2 per cent.

Table 14d shows, for larger numbers than were dealt with in the corresponding table in 1895, the contrast between the houses with inside and outside water-closets. Taking these two groups of houses, irrespective of the treatment of other wastes, the test entered the house in 42 per cent. of those with inside water-closets, in only 25 per cent. of those where there was a water-closet of the ordinary type outside the house.

TABLE 14e.

Similar in reference to 193 houses with W.C. only outside. 222 with trough latrines, and 296 using middens or pails.

	Houses examined.	Per cent. of smaller group.	PERCENTAGE.	
			Found wrong.	Not found wrong.
Outside W.C's.	193	—	24·9	75·1
Cut off	109	56·5	15·6	84·4
Not cut off	84	43·5	36·9	63·1
Latrines	222	—	25·2	74·8
Cut off	103	46·4	6·8	93·2
Not cut off	119	53·6	41·2	58·8
Middens, &c.	296	—	35·5	64·5
Cut off	110	37·2	12·7	87·3
Not cut off	186	62·8	48·9	51·1

Outside closets. Table 14e shows how the conditions of “cut off” or “not cut off” have affected the three groups of houses with outside conveniences. There were 193 houses (examined on account of typhoid) to which an outside water-

closet was attached. In these, the number found wrong was just under 25 per cent.; in houses with trough closets (of which there were 222), the number found wrong was just over 25 per cent.; while in the 296 typhoid houses with midden-privies, or pails, the number found wrong, on testing, was $35\frac{1}{2}$ per cent. The numbers of houses examined are in each case larger than those dealt with in table 14e of the 1895 supplement.

When, however, the question of "cut off" or "not cut off" is taken into consideration, there is considerable variation in the three groups. The houses with outside water-closets, in which other drains were cut off, showed a larger proportion with faulty drains than either the latrine houses or the midden privy houses. This was perhaps not at first sight to be altogether expected, but when it is remembered that, in the newer class of water-closet houses, the outside closet is often placed adjacent to the house wall, and, when the circumstances narrated in my 1894 report (page 136) in connection especially with diphtheria at Granby Grove are taken into account, it is evident that there is a possible connection between the situation of the water-closet, and especially its near neighbourhood to the through house, and the circumstance that the drain test finds its way more frequently into the house where the outside convenience is a water-closet rather than a latrine or a privy.

A few houses may also possibly have got into our list, in which the water-closet, although entered from outside the house, may actually have been situated partly under the dwelling. These houses ought to have been included amongst those with inside water-closets. We have occasionally found, on checking there turns of the inspectors, that such closets have been counted as though they were outside. This type of closet is largely used in what my colleague, the Building Inspector, calls the "better-class back-to-back house." One closet generally serves two houses, and is partly built under each. Where this is the case, as was pointed out in the 1894 report already referred to (pp. 133, 134, etc.), the smell of a disinfectant placed in this closet often penetrates into both houses, and any fault in the water-closet drain is apt to affect both.

Another noteworthy circumstance is that of the 103 latrine houses, in which disconnection of every drain was fully effected, in less than 7 per cent. did the smell come into the house, while it did so in nearly 13 per cent. in the smaller disconnected midden houses. Here again I think the explanation lies in the fact of the greater amount of attention paid to the drains in the slums of the town. It will be noticed that of the latrine houses, 46.4 per cent. had their other drains "cut off," but only 37.2 per cent. of the midden houses. Many of the midden houses are in the outer districts of the town—are more modern, and supposed to be of a better type. They possibly get less attention from the inspectors, so that it is, perhaps, not unnatural that the "cut offs" should be more numerous proportionately in the lower-class houses. But it is not so easy to say why the proportion amongst those so "cut off," which yield bad results to our tests, should be nearly twice as great in the midden as in the latrine houses. If one might venture a suggestion in explanation, it would be that the ground has more thoroughly settled in the older parts of the town where the latrine exists,—that the middens, and to a still larger extent the outside water-closet houses, are in newer parts of the town—their drains often laid in made ground, so that, although technically "cut off" from the house, there is occasionally, where the ground has given way, a connection established (as occurred so frequently at Highbury and Granby Grove, mentioned in the report of 1894 already referred to) between the faulty drains outside, under the footings, with the interior of the house.

On the whole, therefore, it is evident that disconnection of drains is a great safeguard against the entrance of sewer gas,—that the presence of an inside water-closet renders a house more liable to the entrance of air from the sewers—that this is more likely to occur if the soil-pipe is not freely ventilated, and that amongst closets outside the house the freedom from entrance of sewer gas is much greater when they are not attached to the outer wall, and that probably the question of made ground has a great deal to answer for in the breakdown of the protection in the 14 per cent. of houses technically "cut off" from the sewer.

TABLE 17.

Showing the deaths of persons under and over five, from certain causes and groups of causes in 1896.

				Thirteen Weeks ended Mar. 28th, 1896.		Thirteen Weeks ended June 30th, 1896.		Fourteen Weeks ended Oct. 3rd, 1896.		Thirteen Weeks ended Jan. 3rd, 1897.		Fifty-three Weeks ended Jan. 2nd, 1897.		Total.
				-	+	-	+	-	+	-	+	-	+	All Ages.
				5	5	5	5	5	5	5	5	5	5	
Smallpox	...	...	...	...	...	...	1	...	...	...	...	...	1	1
Measles	...	...	...	64	2	50	...	50	1	27	4	191	7	198
Scarlatina	...	...	...	11	...	7	...	19	5	21	9	58	14	72
Diphtheria	...	...	...	9	4	5	1	8	3	7	2	29	10	39
Croup (membranous & undefined)	...	...	...	8	3	8	1	5	1	8	1	29	6	35
Whooping Cough	...	...	...	104	2	79	...	36	1	25	...	244	3	247
Typhus	...	...	...	...	...	...	...	...	7	...	2	...	9	9
Enteric	...	...	...	1	14	...	11	...	30	...	21	1	76	77
Other or doubtful	...	...	...	...	...	...	...	...	...	...	1	...	1	1
Diarrhœa and dysentery	...	...	...	10	3	36	2	208	17	5	3	259	25	284
Cholera	...	...	...	...	...	...	1	...	1	...	...	...	2	2
Rheumatic fever	...	...	...	...	...	...	2	...	4	...	2	...	8	8
Acute and sub-acute rheumatism	...	...	...	...	5	...	4	...	4	...	10	...	23	23
Erysipelas	...	...	...	...	...	...	2	5	2	...	4	5	8	13
Pyæmia	...	...	...	...	2	1	2	...	6	...	...	1	10	11
Puerperal fever	...	...	...	...	7	...	5	...	6	...	7	...	25	25
Ague	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Phthisis	...	...	...	6	149	3	152	4	136	5	158	18	595	613
Other tuberculous diseases	...	...	...	36	10	54	22	66	15	38	19	194	66	260
Bronchitis, pneumonia, and pleurisy	...	...	...	192	224	187	229	109	145	187	272	675	870	1545
Other diseases of the air passages	...	...	...	6	11	7	13	3	9	8	22	24	55	79
Influenza	...	...	...	...	2	...	9	...	3	3	3	3	17	20
Heart disease	...	...	...	2	129	1	136	1	119	1	143	5	527	532
Other diseases of the circulatory system	...	...	...	...	5	...	1	...	4	1	7	1	17	18
Injuries	...	...	...	17	52	6	46	13	53	17	63	53	214	267
Other causes	...	...	...	340	441	349	458	421	463	363	468	1473	1830	3303
Total under 5	...	...	...	806	...	793	...	948	...	716	...	3263	...	7682
Total over 5	...	...	...	1065	...	1098	...	1035	...	1221	...	4419	...	
Total, all ages	...	...	...	1,871	...	1,891	...	1,983	...	1,937	...	7,682	...	

DIARRHŒA.

On referring to table D, in the appendix, it will be seen that our death-rate from diarrhœa fell from 0·98 in 1890 to 0·86 in 1891, rising to 1·10 in 1892, and 1·60 in 1893. In 1894, the healthiest year on our record, the rate fell to 0·45, but again rose the following year, 1895, to 1·58. The average for these six years, 1890-95 (consisting of 313 weeks), was 1·10. In the year 1896 the rate was 0·69, but the following year it rose to 1·58. The average for the two years, 1896-97, of 1·13, was thus very nearly the same as that for the previous six. The circumstances which specially determined the greater mortality from diarrhœa in 1897 are referred to in the preliminary report for that year, already in your hands. As is usually the case, the mortality was principally amongst young children. Of the 284 deaths in 1896, 259 occurred in children under five, and of the 643 in 1897, 607.

HOUSE CONDITIONS.

Through houses, etc. Though table 15 is not completed, for reasons already given, from the manuscript addition to table 25, I find that of the 284 houses visited on account of death from diarrhœa during the 53 weeks of 1896, there were 60 (or 21·1 per cent.) that were throughs, the remaining 224 (or 78·9 per cent.) were back-to-backs, salt-pies, or single houses without a through draught.

Drainage. It will be seen from table 25, that 131 (or 46·1 per cent.) of the 284 houses were reported as being well drained structurally. That is to say, that these houses were disconnected, as to all ordinary wastes, from the drains; that if any of them had an inside water-closet, the ventilating pipe was taken, in each case, full bore above the eaves, and that there was no other manifest structural defect. It must be remembered, however, that in the majority of cases no test of the drains was made, and that other insanitary conditions, such as overcrowding, dirtiness, proximity of middens, etc., are not taken into account.

Closet accommodation. Of the 284 houses, 76 (or 26·8 per cent.) had some form of ordinary water-closet inside or outside the

TABLE 18.

Showing death-rate per 1,000 of the estimated population from certain causes and groups of causes, and for the periods of time dealt with in the preceding table.

1896.					I.	II.	III.	IV.	Year.
Smallpox ... ..	...	...	...	...	...	0·01	...	...	0·00
Measles .. ...	...	...	...	...	0·66	0·50	0·47	0·31	0·48
Scarlatina ... ..	...	...	...	...	0·11	0·07	0·22	0·30	0·18
Diphtheria ... ..	...	...	...	...	0·13	0·06	0·10	0·09	0·10
Croup (membranous & undefined)	...	...	...	...	0·11	0·09	0·06	0·09	0·09
Whooping-cough ... ..	...	...	...	...	1·06	0·79	0·34	0·25	0·60
Continued Fever.	{ Typhus ... ..	...	...	...	...	...	0·06	0·02	0·02
	{ Enteric ... ..	...	...	...	0·15	0·11	0·28	0·21	0·19
	{ Other or doubtful ... ..	...	...	...	...	...	...	0·01	0·00
Diarrhœa and dysentery ... ..	...	...	...	...	0·13	0·38	2·08	0·08	0·69
Cholera ... ..	...	...	...	...	...	0·01	0·01	...	0·00
Rheumatic fever... ..	...	...	...	...	...	0·02	0·04	0·02	0·02
Acute and sub-acute rheumatism	...	...	...	...	0·05	0·04	0·04	0·10	0·06
Erysipelas ... ..	...	...	...	...	...	0·02	0·06	0·04	0·03
Pyæmia ... ..	...	...	...	...	0·02	0·03	0·06	...	0·03
Puerperal fever ... ..	...	...	...	...	0·07	0·05	0·06	0·07	0·06
Ague .. ...	...	...	...	...	...	...	...	...	...
Phthisis ... ..	...	...	...	...	1·55	1·55	1·30	1·63	1·50
Other tuberculous diseases ... ..	...	...	...	...	0·46	0·76	0·75	0·57	0·64
Bronchitis, pneumonia, and pleurisy ... ..	...	...	...	...	4·15	4·15	2·35	4·58	3·78
Other diseases of the air-passages	...	...	...	...	0·17	0·20	0·11	0·30	0·19
Influenza .. ...	...	...	...	...	0·02	0·09	0·03	0·06	0·05
Heart disease ... ..	...	...	...	...	1·31	1·37	1·11	1·44	1·30
Other diseases of the circulatory System ... ..	...	...	...	...	0·05	0·01	0·04	0·08	0·04
Injuries, &c. ... ..	...	...	...	...	0·69	0·52	0·61	0·80	0·65
Other causes ... ..	...	...	...	...	7·79	8·05	8·19	8·29	8·08
All causes ... ..	...	...	...	...	18·7	18·9	18·4	19·3	18·8

house, generally outside; 101 (or 35·6 per cent.) had the use of a latrine; while 107 (or 37·7 per cent.) had the use of a midden or pail. The corresponding proportions in 1895 dealing, however, with a larger number of death-houses (486) were 23·7, 40·9, and 35·4, and the proportion of houses in the city is approximately 36·6 with some form of water-closet, 24·4 with latrines, 39·0 with middens or pails. In both years, therefore, the percentage of diarrhoea death-houses, with ordinary water-closets, was below the average found in the city; in both years those with trough-closets were above, and those using the ordinary midden below the average.

Notification of disease.

A full list of the cases reported each quarter, since notification became compulsory, will be found in the preliminary annual report for 1897, carried up to the end of March, 1898. Information for the several quarters of 1895, differentiating the cases reported in each ward, and each registration district, and shewing which of them were removed to hospital, was given under head of table B in the (supplementary) report for that year. In the present supplementary report for 1896 will be found similar tables for that year, dealing with several quarters, and an extension of the Local Government table B, as given in former reports, so as to shew the incidence and treatment of infectious diseases in the several wards as well as sub-districts. (Table B, Part 2, Wards.) In the preliminary report for 1897, already alluded to, will be found similar tables B for sub-districts and for wards, and tables for each of the four quarters of that year, and the quarterly table for the first quarter of 1898.

Annexed will be found the several diseases and cases notified as infectious in the 53 weeks of 1896 and the 52 of 1897, and the deaths in the city from those diseases during the same periods of time.*

* In table B in this and previous reports, as well as in the table on the opposite page, "cases notified" are not always exactly those first heard of in the period. To balance the admissions cases afterwards hospitalised have been considered as heard of in the period in which they were isolated.

DISEASE.	CASES NOTIFIED.		DEATHS REGISTERED.	
	1896.	1897.	1896.	1897.
Small-pox	2	...	1	...
Scarlet fever	1,216	1,791	72	95
Diphtheria	120	180	39	51
Membranous croup ..	16	30	11	23
Typhus fever	42	1	9	...
Typhoid fever. . .	438	479	77	83
Continued fever ..	2	1	1	2
Puerperal fever ..	37	29	25	15
Erysipelas	368	330	13	20
Notifiable	2,241	2,841	248	289
Other (chiefly doubtful)	109	69	*	*

PART III.—HEALTH OF DISTRICTS.

For reasons already given, very much stress cannot be laid upon the exact death-rates in the several wards and registration districts of the city at a period so distant from the census. It is useful, however, to keep a record of the deaths, as, after the next census has been taken, we can at any time recalculate the death-rates from these figures. Accordingly, in table 19 will be found the estimated population, to the middle of 1896, for each municipal

* To give either the deaths amongst the "other diseases" reported or the whole deaths from other diseases in the city would be misleading. They are, therefore, omitted.

TABLE 19.

Table showing deaths in the four quarters of 1896, for each Municipal Ward, with the estimated population and the death-rate of the ward for the year.

MUNICIPAL WARDS.	Population estimated to middle of 1896.	First quarter, 1896.	Second quarter, 1896.	Third quarter, 1896.	Fourth quarter, 1896.	Fifty-three Weeks.	Death-rate.
Central.. ..	22,387	110	98	111	101	420	18.5
North	36,138	125	124	137	156	542	14.8
North-East	25,084	148	141	168	154	611	24.0
East	26,391	166	165	167	169	667	24.9
South	16,802	116	84	96	102	398	23.3
East Hunslet ..	27,504	143	143	171	123	580	20.8
West Hunslet ..	28,183	95	115	122	104	436	15.2
Holbeck	23,822	114	138	153	129	534	22.1
Mill Hill	8,706	42	41	42	42	167	18.9
West	24,760	133	132	121	126	512	20.4
North-West ..	30,365	134	122	117	137	510	16.5
Brunswick	23,488	77	96	97	93	363	15.2
New Wortley ..	19,336	77	102	102	74	355	18.1
Armley & Wortley	31,316	126	152	118	144	540	17.0
Bramley	20,166	76	76	91	92	335	16.4
Headingley	38,001	148	125	129	149	551	14.3
Outsiders .. ..	..	41	37	41	42	161	
Totals	402,449	1,871	1,891	1,983	1,937	7,682	18.8

ward, the actual deaths registered in persons belonging to such ward during the several quarters of the year, and the whole 53 weeks, and the annual death-rate for the 53 weeks computed from the estimated population.

In table 20 are given, for the 53 weeks, the deaths in the several registration districts from each of the commoner zymotic diseases, from croup, from phthisis, and from influenza and diseases

TABLE 20.

Shewing the number of deaths from certain specific causes, and groups of causes, in the 53 weeks of 1896, in the sub-registration districts in the City of Leeds. All deaths in public Institutions within the City, of persons belonging to the City, have been referred to the sub-district to which they belonged.

	Small-Pox.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	"Fever."	Diarrhoea.	All Seven.	Croup.	Phthisis.	Influenza and Diseases of the Air Passages other than Consumption.	All other Causes.	All Causes.
Leeds, North	...	29	17	8	60	13	54	181	6	130	291	690	1298
,, West	...	19	8	4	39	22	42	134	4	122	323	951	1534
,, South	...	28	9	4	30	6	29	106	3	80	211	434	834
Unstret	...	77	18	4	31	18	64	212	5	73	311	672	1273
Holbeck	1	6	4	2	15	9	18	55	7	43	119	320	544
Wortley	...	15	6	3	44	7	44	119	6	72	185	568	950
Kirkstall	...	5	5	8	17	5	11	51	3	40	106	337	537
Bramley	...	14	2	3	2	3	10	34	1	18	48	179	280
Chapeltown	...	5	2	3	8	2	10	30	...	24	42	165	261
Osmond- thorpe)	1	1	2	4	...	...	...	6	10
City of Leeds	1	198	71	39	247	86	284	926	35	602	1636	4322	7521

1 death from scarlatina, 1 from "Fever." 11 from phthisis, 8 from influenza and other diseases of the air passages other than consumption, and 140 deaths from other causes occurred in the City of persons not belonging to Leeds.

of the lungs, from other causes, and from all causes. In table 21 the rates on the estimated population from each group, in each district, are given. The latter must be regarded as provisional.

TABLE 21.

Shewing the mortality stated in deaths per 1,000 of the population of the sub-districts, as estimated to the middle of 1896.

	Small-Pox.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	"Fever."	Diarrhoea.	All Seven.	Croup.	Phthisis.	Influenza and Diseases of the Air Passages other than Consumption.	All Other Causes.	All Causes.
Leeds. North	...	0·47	0·27	0·13	0·96	0·21	0·87	2·90	0·10	2·08	4·67	11·06	20·81
„ West	...	0·22	0·09	0·05	0·45	0·26	0·49	1·55	0·05	1·41	3·74	11·02	17·78
„ S. E.	...	0·82	0·26	0·12	0·88	0·18	0·85	3·10	0·09	2·34	6·17	12·69	24·38
Hunslet	...	1·19	0·28	0·06	0·48	0·28	0·99	3·26	0·08	1·12	4·79	10·34	19·59
Holbeck	0·04	0·22	0·15	0·07	0·56	0·33	0·67	2·05	0·26	1·60	4·43	11·90	20·23
Wortley	...	0·27	0·11	0·05	0·79	0·13	0·79	2·14	0·11	1·29	3·33	10·21	17·08
Kirkstall	...	0·13	0·13	0·21	0·45	0·13	0·29	1·36	0·08	1·07	2·83	8·99	14·33
Bramley	..	0·86	0·12	0·18	0·12	0·18	0·61	2·08	0·06	1·10	2·94	10·97	17·16
Chapeltown	...	0·21	0·08	0·12	0·33	0·08	0·41	1·24	...	0·99	1·73	6·80	10·76
Osmond- thorpe }	2·28	2·28	4·56	9·11	...	...	...	13·68	22·79
Cty. of Leeds	0·00	0·48	0·17	0·10	0·60	0·21	0·69	2·27	0·09	1·47	4·00	10·57	18·40

1 death from scarlatina, 1 from "Fever," 11 from phthisis, 8 from influenza and other diseases of the air passages other than consumption, and 140 deaths from other causes occurred in the City of persons not belonging to Leeds.

AREAS SPECIALLY INVESTIGATED.

During 1896 and 1897, 6,697 and 3,366 houses were examined, in prosecution of house-to-house inspection. The wards in which these houses were examined are shown for each year in Table II., part 2, page 112.

OTHER LOCAL FACTORS.

House conditions and disease. In the supplementary report for 1895, a comparison was instituted, in regard to drainage and closet arrangement in houses examined on account of certain notifiable diseases, between the conditions found in the pre-notification and the post-notification periods. It was, of course, natural to expect that compulsory notification would take us into a larger proportion of houses of the better class than were visited, where information reached us because the conditions were such that removal to hospital was desirable, or because a death had occurred. I do not propose to follow this further in the meantime, but will simply deal with the total case-houses examined. These were 4,146 in 1896, as against 4,916 in the corresponding table given in the supplementary annual for 1895. That table contained, however, some case-houses dealt with during the latter part, or post-notification period, of 1894. During the four years, 1891-4 (excluding, during the latter part of 1894, houses examined on account of certain notifiable diseases), 10,493 case-houses were examined in which cases of illness had occurred. Dealing with the whole of 1895, and some notifiable disease-houses in the latter portion of 1894, 4,916 case-houses were examined, and we have now, for 1896, 4,146. Together, these make 19,555 case-houses, as to which we have some information.

Of the whole 19,555 houses examined and tabulated during these six years, 7,439 conformed more or less to our standard, 12,116 did not; in other words, 38 per cent. were "well drained," 62 per cent. "badly drained."

Taking these three groups separately, in the earlier period, there were 34 per cent. "well drained" to 66 "ill drained" houses; in the extended 1895 period, the "well drained" houses rose to 40·4, and in 1896 to 45·4 per cent. Our standard is stricter, rather than less strict than formerly, so that there seems to be an improvement in the class of dwellings we come across. But it is, of course, well to remember the difference already hinted at as to the kind of houses examined in the notification and pre-notification periods.

In regard to ordinary water-closets, these in the earlier period were attached to 29·9 per cent. of the houses examined, to 31·6 in the middle, and to 34·9 in the last, or 1896, period. Trough water-closets were also becoming more frequent;—they were 28·6, 29·1, and 29·6 per cent. in the several periods. The midden privy, on the other hand, became less frequent, 41·4, 39·3, and 35·5. per cent.

Taking the whole period 1891-6 together, of the case-houses examined on account of illness, or death from the diseases mentioned in table 25, 6,133 (or 34 per cent.) used ordinary water-closets, 5,659 (or 28·9 per cent.) trough closets, 7,751 (or 39·6 per cent.) middens or pails, while 12 (equivalent to rather less than 0·1 per cent.) had no convenience attached. The numbers we are accustomed to consider as representing the city are 36·6 water-closet houses, 24·4 trough closet houses, 39·0 with middens or pails. In the houses examined, therefore, on account of sickness, ordinary water-closets would appear less frequent during these six years, trough closets more so, while middens are about as frequent as in the town generally.

It will have been noted that the proportion of water-closet houses increased in the three periods dealt with—that those with trough closets also increased slightly from the first to the second, and fractionally from the second to the third. The proportion of the houses with midden privies decreased slightly from the first period to the second, considerably from the second to the third. The first was the pre-notification, and the two last post-notification periods; but notification, of course, only applies to some of the diseases on account of which houses were examined.

TABLE 25.

Showing case-houses examined on account of certain diseases, and some of the conditions found as to drainage and closet arrangements during 1896.

53 WEEKS 1896.					CASES.		Total Deaths in City.	DRAINAGE.		CLOSETS.			
					Alive.	Dead.		Good.	Bad.	Water Carriage.		Midden or Pail.	None.
										W. C.	T. W. C.		
Small-pox	...	...	...	...	2	..	1	1	1	2	...	...	...
Scarlet fever	...	...	...	...	1172	4	72	566	610	532	289	355	..
Diphtheria	...	...	...	...	105	15	39	42	78	61	28	31	...
Croup	...	...	...	...	23	27	35	17	33	11	20	19	...
Typhus fever	...	...	...	...	39	...	9	22	17	8	28	3	...
Typhoid fever	...	...	...	...	429	8	77	202	235	154	124	159	...
Erysipelas	...	...	...	...	358	4	13	148	214	111	120	131	...
Puerperal fever	...	...	...	...	31	14	15	22	23	9	20	16	...
Measles (death-houses)	...	...	...	...	3	195	198	96	102	46	76	76	..
Measles (recovery-houses)	...	...	...	...	400	...	..	192	208	97	79	224	...
Measles (recoveries in death-houses)	...	...	...	...	58	...	...	33	25	13	15	30	...
Whooping cough	..	...	...	...	...	246	247	97	149	76	87	83	...
Diarrhœa	...	...	...	...	...	284	284	131	153	76	101	107	...
Septicæmia.	Pyæmia	...	...	...	...	8	8	5	3	3	2	3	...
Broncho-pneumonia	...	..	...	...	...	255	257	113	142	80	97	78	...
Pneumonia	...	...	...	...	...	387	413	157	230	135	123	129	...
Pleuro-pneumonia	...	...	...	...	...	15	15	8	7	10	1	4	...
Pleurisy	...	...	...	...	...	24	24	11	13	6	7	11	...
Empyæma	...	...	...	...	...	4	4	4	...	2	2	...	...
Influenza	...	...	...	...	...	17	20	9	8	9	3	5	..
Laryngitis	...	...	...	...	...	19	19	6	13	7	3	9	...
Totals	...	...	...	...	2620	1526	1750	1882	2264	1448	1225	1473	...

Part IV.—DEPARTMENTAL WORK.**CHANGES IN STAFF.**

Two changes took place in the staff during 1896. Inspector Newby, who had charge of the West Hunslet Ward, and had been appointed in 1890, broke down in health, and, after a somewhat lingering illness, died on September 22nd, 1896. On the 25th of August, the Committee appointed Mr. E. W. Turner as Sub-Inspector. Mr. Turner was a plumber by trade, and came from Grimsby. He held the Inspector's certificate of the Sanitary Institute, and came on duty in September.

On the 22nd of October, Inspector Thornber, who had been latterly Ward Inspector in East Hunslet, resigned. Mr. Thornber had been forty-four years in the public service—seven of these in Rochdale, three in Manchester, and the rest in Leeds. In Manchester he was in the police service, and was Assistant Inspector of Lodging Houses. At the time he was appointed Sanitary Inspector, he was a “first class” constable in the Leeds Police Force. With the exception of six months in 1880, when he was Meat Inspector, his duties had been more or less in the township of Hunslet. He had grown old in our service. On the 26th of November, the Committee appointed Mr. R. W. Marshall to the vacancy thus caused. He held the Inspector's diploma of the Sanitary Institute, and had formerly been a mechanic at Messrs. Wilkinson, Alexander & Co.'s, Queen Works, Water Lane, Leeds. He began work in December.

In July, 1896, two Inspectors, previously appointed, took the diploma of the Sanitary Institute, thereby qualifying themselves for the rise of salary promised by the Committee.

WORK OF WARD INSPECTORS.

The work of the Ward Inspectors will be found, for 1896, as usual in the tables annexed, and for 1897 in the preliminary report for that year. The other tables are as usual, and refer chiefly to 1896, the corresponding figures for 1897 being printed in the preliminary report for that year.

TABLE I.

		HOUSE INSPECTION.				OTHER WORK DONE (continued).				City Total 1899.			
		I. II. III. IV.				I. II. III. IV.				City Total 1899.			
1.	Houses and premises completely examined on account of	712	1207	1082	3916	33.	Special examinations of drains by tests ..	561	451	493	442	1947	
2.	Houses and premises examined	107	179	103	226	34.	Defects found by ditto ..	443	411	322	379	1555	
3.	Houses and premises examined only as to	2167	1978	1397	1185	37.	Appointments ..	204	200	215	234	872	
4.	Houses and premises examined only as to	185	203	371	1172	38.	Notices and letters served ..	61	31	24	32	148	
5.	Houses and premises examined only as to	424	408	592	2014	39.	Dwelling houses unfit for human habitation closed	..	..	..	..	..
6.	Houses and premises examined only as to	660	607	583	2580	40.	Dwelling houses rendered fit for human habitation	..	..	..	..	..
7.	Number of houses wholly or partly examined	4255	4231	4395	17051	41.	Houses cleansed ..	10	1	4	4	19	
8.	Total number of above houses where sanitary defects were found	1406	1386	1564	5903	42.	Overcrowded houses dealt with ..	115	165	165	112	557	
9.	Sanitary defects found in above houses	1362	1396	1577	5903	43.	Defective spouting, &c., repaired ..	61	63	77	52	252	
10.	NUISANCES, &c.	130	205	229	713	44.	New midden privies built ..	238	236	150	198	822	
11.	Houses dirty ..	85	90	120	389	45.	Old midden privies repaired ..	4	5	6	1	15	
12.	" damp or dilapidated ..	108	84	114	400	46.	Privies rebuilt ..	56	36	29	36	157	
13.	" with defective cave-gutters or fall pipes ..	198	135	154	646	47.	Privies converted into trough water closets ..	5	16	..	6	27	
14.	Nuisances found in ..	674	706	669	2693	48.	Do. do. ordinary water closets ..	53	21	23	31	123	
15.	" without sink drain ..	41	16	18	6	49.	Water closets erected ..	50	45	20	92	227	
16.	" badly lighted ..	6	..	..	6	50.	New dry ashpits or tubs ..	26	10	14	26	76
17.	" badly ventilated ..	2	4	..	6	51.	New trough water closets built ..	82	36	25	60	203	
18.	houses:—	834	881	754	3083	52.	Pail closets converted into water closets ..	43	12	15	21	91	
19.	" with defective or insufficient closet accommodation ..	701	423	442	2140	53.	Do. altered into privies ..	3	25	8	9	31	
20.	" with dirty closets ..	275	305	241	1110	54.	Closets cleansed (lime-washed, &c.) ..	394	332	244	322	1339	
21.	" stopped ..	578	638	593	2239	55.	Drains in course of construction inspected ..	502	335	230	27	1227	
22.	" with other nuisances ..	3652	3437	3354	13517	56.	" of reconstruction ..	465	615	585	617	2112	
23.	No. of houses in which above nuisances were found	4165	3875	3681	15109	57.	" inspected when connection made to sewer ..	181	178	57	137	503	
24.	Street gullies stopped ..	359	408	590	1685	58.	Disconnections of house drains effected ..	725	744	597	712	2734	
25.	Offensive accumulations ..	91	78	59	335	59.	Cess-pools filled up ..	2	10	25	12	49	
26.	Other outside nuisances ..	200	210	173	225	60.	Public or private wells abolished ..	..	..	..	..	..
27.	Total nuisances found	4302	4180	4182	16345	61.	Houses supplied with town's water ..	372	305	310	303	124	
28.	Complaints unfounded ..	13	23	23	4	62.	Trough and water closets repaired ..	625	905	769	612	287	
29.	OTHER WORK DONE.	1055	878	4638	2193	63.	Other houses' nuisances remedied ..	372	305	310	303	124	
30.	Additional visits ..	2008	1763	1439	1538	64.	Total houses for which above work done ..	3416	3437	2693	3168	12710	
31.	paid to houses	132	132	90	100	65.	Houses in which all defects found have been remedied	2451	2347	1701	2341	8619	
32.	for	2758	2832	2661	10293	66.	Street gullies cleansed ..	249	307	271	339	1103	
						67.	Offensive accumulations removed ..	83	68	75	94	290	
						68.	Pollutions of river or streams remedied ..	..	6	2	11	13
						69.	Other non-domestic nuisances removed ..	..	..	..	..	..
						70.	Additional visits paid to inspect work in progress	..	119	145	85	164	
						71.	Total nuisances abated ..	..	3125	2919	2000	2933
								..	3709	3018	2683	3543	
								..	..	..	..	13918

ANALYSIS OF WORK DONE BY DISTRICT INSPECTORS IN THE SEVERAL WARDS.

[illegible]

TABLE II.—(Continued).

[illegible]

TABLE II.—PART 2.
House-to-House Inspection for 1896 and 1897.

WARD.				1896.	1897.	TOTAL.
Eastern Division.	{ Central			233	122	355
	{ North			553	186	739
	{ North-East			724	391	1,115
	{ East... ..			697	329	1,026
	{ South			467	72	539
	{ East Hunslet			54	215	269
	{ West Hunslet			6	182	188
	{ Holbeck			76	235	311
Divisional totals				2,810	1,732	4,542
Western Division.	{ Mill Hill			1,057	543	1,600
	{ West			601	183	784
	{ North-West			252	117	369
	{ Brunswick			512	133	645
	{ New Wortley			620	257	877
	{ Armley and Wortley			338	140	478
	{ Bramley			333	121	454
	{ Headingley.. ..			174	140	314
Divisional totals				3,887	1,634	5,521
Totals				6,697	3,366	10,063

TABLE III.

Shewing the number of drains or sources of pollution diverted from the River Aire and its tributaries, and connected to the town sewers.

Date.	Mil. factory, house drains, stables, and pigstyes.	Water closets.	Privies.	Trade pollutions.	Total.
Previous to Dec. 28th, 1895	5,118	223	232	24	5,597
During the 53 weeks ended Jan. 2nd, 1897	35	13	—	1	49
Totals	5,153	236	232	25	5,646

TABLE IV.

Shewing the sanitary conditions of workshops on register, and occupied during the 53 weeks ended 2nd January, 1897.

DATE. 1896.	No. of visits made to workshops.	EMPLOYEES.			VENTILATION.		CONDITION OF PREMISES.				No. of occupiers noticed for dirty premises.
		Male.	Female.	Total.	Good.	Bad.	Rooms.		Closets.		
							Clean.	Dirty.	Clean.	Dirty.	
5 weeks ended Feb. 1	23	145	115	260	23	...	15	8	14	9	8
4 weeks ended „ 29	42	271	214	485	42	...	20	22	18	24	22
4 weeks ended Mch. 28	28	345	230	575	28	...	9	19	10	18	19
5 weeks ended May 2	27	151	121	272	27	...	14	13	12	15	13
4 weeks ended „ 30	26	145	139	284	26	...	13	13	11	15	13
4 weeks ended June 27	40	270	225	495	40	...	23	17	19	21	17
5 weeks ended Aug. 1	28	242	136	378	28	...	14	14	12	16	14
4 weeks ended „ 29	30	199	251	450	30	...	27	3	16	14	3
5 weeks ended Oct. 3	44	486	341	827	44	...	27	17	24	20	17
4 weeks ended „ 31	44	261	192	453	44	...	38	6	34	10	6
4 weeks ended Nov. 28	25	253	242	495	16	9	18	7	13	12	7
5 weeks ended Jan. 2	31	317	164	481	22	9	21	10	21	10	10
Total	388	3,085	2,370	5,455	370	18	239	149	204	184	149

TABLE V.

Shewing the number of workshops not previously visited this year, to which visits have been paid, and the sanitary arrangements at time of visit.

DATE. 1896.	No. of different workshops visited.	DESCRIPTION OF DRAINAGE.				SITUATION OF CLOSETS.			
		Cut off.	Not cut off.	Without.	Out of order.	Inside.		Outside.	
						W.C. soil pipe carried up.	W.C. soil pipe not F. V.	W.C's.	Privies.
5 weeks ended Feb. 1	18	3	5	10	...	4	2	8	4
4 weeks ended Feb. 29	11	5	3	3	...	6	...	4	1
4 weeks ended Mch. 28	40	12	9	19	..	9	3 *	23	4
5 weeks ended May 2	19	6	2	11	...	1	1	14	3
4 weeks ended ,, 30	33	18	7	8	...	16	...	12	5
4 weeks ended June 27	23	11	6	6	...	9	...	10	4
5 weeks ended Aug. 1	7	4	2	1	...	2	...	4	1
4 weeks ended ,, 29	16	3	7	6	...	4	... *	9	2
5 weeks ended Oct. 3	11	5	3	3	...	3	...	7	1
4 weeks ended ,, 31	24	10	4	10	...	9	2	9	3
4 weeks ended Nov. 28	42	15	12	15	.	13	3	23	3
5 weeks ended Jan. 2	23	10	5	8	...	6	... *	12	5
Total	267	102	65	100	...	82	11	135	36

* No accommodation was necessary in 3 cases.

OTHER WORK OF WORKSHOPS INSPECTOR.

In addition, 374 visits were paid to workshops and 163 to factories, to secure abatement of nuisances and watch work ordered. On account of infectious disease, 50 visits were made to workshops, and 108 to factories, and for wage enquiry 12 and 20 respectively. Additional visits, 250 and 178, were made for drain and closet inspection, 36 and 31 for drain testing. The Workshops Inspector made 22 visits to bakehouses, and 27 visits to business places in regard to Rivers' pollution. He also assisted to test house drains on 103 occasions. Nuisances were abated in workshops to the number of 103, and 90 in factories. In respect to complaints &c., 186 and 174 visits were made to workshops and factories.

BAKEHOUSES.

In addition to the 22 visits paid by the Workshops Inspector to 22 bakehouses, the following have been made by the Ward Inspectors: Central Ward, 36 visits to 21 bakehouses; North Ward, 33 to 13; North-East, 73 to 15; East, 72 to 12; South, 50 to 8; East Hunslet, 36 to 15; West Hunslet, 39 to 8; Holbeck, 12 to 6; Mill Hill, 65 to 19; West, 42 to 16; North-West, 14 to 11; Brunswick, 44 to 17; New Wortley, 28 to 10; Armley and Wortley, 17 to 8; Bramley, 42 to 11; Headingley, 29 to 16; Total by Ward Inspectors, 632 to 196, or including those by Workshops Inspector, 654 to 218.

HOUSE REFUSE.

TABLE VI.

Ashpits inspected during the fifty-three weeks ended
2nd January, 1897.

Number of inspections of ashpits.	Requisitions to cleanse sent to Refuse Removal Department from Sanitary Office.	Number of latter returned as carried out.	Ashpits not cleansed within four days of requisition.	Condition of ashpits generally.
88,620	9,203	9,180	198	Good.

TABLE VII.

No. of middens emptied.	No. of dry ashpits or tubs emptied.	No. of boxes or palls emptied.	Total.	LOADS REMOVED.			Total.
				Night soil.	Dry ashes.	Rubbish.	
87,506	340,326	107,135	534,967	33,211	83,229	22,905	139,345

DESTRUCTORS.

At Armley Road, during the fifty-three weeks, 25,749 loads of rubbish, weighing 25,393·35 tons ($=0\cdot986$ per load), were destroyed in 16 cells on 296 working days, being an average of 5·4 tons per cell day. There were 7,104 observations of temperature taken, averaging $1,434^{\circ}$ Fahr.; the highest was $1,500^{\circ}$, the lowest 300° . The pyrometer, however, shews no temperature above $1,500^{\circ}$.

At Beckett Street, 12,205 loads of rubbish, weighing 12,214·2 tons ($=1\cdot001$ per load), were destroyed in 8 cells of the destructor (14 cells) in 289 working days, being an average of 5·28 tons per cell day. There were 6,936 observations of temperature taken, averaging $1,087^{\circ}$ Fahr.; the highest was $1,500^{\circ}$, the lowest 200° . Pyrometer as at Armley Road.

At Kidaere Street, 16,511 loads of rubbish, weighing 15,744·05 tons ($=0\cdot954$ per load), were destroyed in 12 cells during 306 working days, being an average of 4·28 tons per cell day. There were 7,344 observations of temperature taken, averaging $1,410^{\circ}$ Fahr.; the highest was $1,500^{\circ}$, the lowest 350° . Pyrometer as at Armley Road.

At Meanwood Road 14,487 loads of rubbish, weighing 14,078·65 tons ($=0\cdot972$ tons per load), were destroyed in 8 cells during 300 working days, being an average of 5·87 tons per cell day. No observations of temperature were taken.

STREET CLEANSING.

Mr. Hanford reported work corresponding to the cleansing of 182,679 streets, an average of 582 per day for 314 working days. The cleansing of gullies was equivalent to cleansing 173,782, or 553 per day for 314 working days.

The number of horse days for scavenging was 15,700, and for watering 3,543, being an average of horses per day of 50 and 34 respectively.

In addition to the above, 3,512 loads of horse droppings were collected at a cost of £311 12s. 0d. The cost of watering the streets amounted to £1,734 1s. 10d.; of snow removing, £84 8s. 6d.; and of street cleansing, £14,428 17s. 0d., together making a total cost of £16,558 19s. 4d.

FOOD INSPECTION.

TABLE VIII.

Shewing cowsheds and milkshops on the register, and work done in connection with Cowsheds and Dairies Order during 1896.

Cowsheds on the register	..	..	..	267
Milkshops	„	..	..	685
Visits to both	..	..	..	1,015
Applications for registration (cowsheds)	..			1
„	„	(milkshops)	..	18
Cow-keepers registered	..	..	..	7
Milk dealers	„	..	..	35
Cowsheds erected	..	..	..	1
„	reconstructed or enlarged	..	..	2
„	properly drained	..	..	5

TABLE VIIIa.
Drain-testing of milk shops.

WARD.	Severed.		Not severed.		Total.
	Defective.	Not defective.	Defective.	Not defective.	
Central	4	5	14	10	33
North	4	8	11	8	31
North-East	3	15	12	6	36
East	2	26	4	11	43
South	3	5	3	4	15
East Hunslet	2	18	15	3	38
West Hunslet	2	10	10	...	22
Holbeck	6	6	3	8	23
Mill Hill	1	9	...	...	10
West	3	7	6	12	28
North-West	5	14	9	6	34
Brunswick	4	16	4	7	31
New Wortley	1	5	8	2	16
Headingley	5	18	12	2	37
	45	162	111	79	397

These examinations were made in the latter part of 1897, and earlier part of 1898, but are printed here as they are referred to in this supplementary report (p. 90). No milk shops were drain-tested in Armley and Wortley and Bramley wards.

TABLE IX.

Samples of food sent to the City Analyst for examination during the 53 weeks ending January 2nd, 1897.

Article.	Genuine.	Poor in Quality.	Adulterated.	Total.	Summoned.	Convicted.	Dismissed.
Milk	136	52	12	200	10	10	...
Butter	18	...	4	22	...	...	...
Lard	1	...	...	1	...	...	...
Cream of Tartar	3	...	...	3	...	...	...
Bread	3	...	...	3	...	...	...
Tinned Peas ...	...	...	3	3	...	...	...
Lager Beer ...	1	...	...	1	...	...	...
Preserve	1	...	...	1	...	...	...
Flour	2	...	...	2	...	...	...
Coffee ... ..	...	...	1	1	...	...	...
Tinned Beans ...	...	...	1	1	...	...	...
Cheese... ..	1	...	...	1	...	...	...
Tea	2	...	...	2	...	...	...
Margarine	6	...	...	6	...	...	...
Biscuits	3	...	...	3	...	...	...
TOTAL	177	52	21	250	10	10	...

TABLE IXa.

Summonses issued under the "Sale of Food and Drugs Acts, 1875-9," and the "Margarine Act, 1887," during the year 1896.

No. of Article.	Article.	Percentage of Adulteration.	Fines.			Remarks.
			£	s.	d.	
58	Milk	16% added water	0	10	0	Third conviction.
75	Do.	10% do.	0	10	0	
85	Do.	10% do.	1	5	0	
88	Do.	11% do.	10	0	0	
100	Do.	11% do.	1	0	0	
133	Do.	11% do.	0	7	6	
177	Do.	15% do.	1	5	0	
180	Do.	11% do.	1	0	0	
209	Do.	13% do.	0	5	0	
244	Do.	20% do.	2	0	0	
			£18	2	6	
The "Margarine Act, 1887."						
Six persons have been convicted during the year, and fines paid amounting to ...			14	0	0	
			£32	2	6	

TABLE X.

Slaughter-house and meat inspection, fifty-three weeks ended January 2nd, 1897.

Class of meat seized and destroyed.	Weight in stones of 14 lb.	No of seizures.	No. of persons summoned.	No. of convictions.	Penalties.
Beef Mutton Veal	4	1	1	1	£20 and costs.

The Meat Inspectors have paid 5,432 visits to 130 registered slaughter houses. Meat and fish to 1,248 stones weight was destroyed by the owners.

TABLE XI.
Smoke Inspector's report, 1896.

Complaints received	13
Furnaces inspected	8,933
Observations taken of chimneys (for a period of sixty minutes each)	1,727
Average minutes of dense smoke emitted during each observation of one hour's duration	1.39
Total number of minutes' dense smoke	2,397
Smoke prevention appliances adapted to furnaces ...	106
Chimneys newly erected	21
Furnaces in connection with above	29
Notices served upon manufacturers	13
Do. do. stokers	50
Persons summoned before the magistrates	9
Do. convicted	9
Total amount in fines	£5 10s. 0d.

TABLE XII.
Work done by Disinfecting Staff, 1896.

Houses disinfected	2,399
Rooms ,, (stripped, 279, lime-washed, 408)	6,808
Beds and mattresses disinfected ..	5,365
Articles of bed clothing ,, ..	16,952
Articles of wearing apparel ,, ..	35,232
Miscellaneous articles ,, ..	9,265

FLUSHING.

During the 53 weeks of 1896, six earts, each with two attendants, have been employed flushing drains. In this period 24,173 house drains, 82,526 outside drains, and the drains in connection with 114 schools, have been flushed. In addition to this, two men have been engaged putting an iron solution into tanks connected with the sewers, and in this manner 16,000 gallons of disinfecting solution have been allowed to trickle into certain of the sewers.

TABLE XIII.

Cases removed to hospital by our own Staff.
Classified according to diseases certified.

Small-pox.	Scarlet fever.	Diphtheria.	Typhus fever.	Typhoid fever.	Other diseases.	Total.
2	447	1	42	212	10	714

OTHER WORK OF REMOVAL STAFF.

In addition to the above work, 286 were taken to Manston Cottages, 57 to Manston Hall, 39 from Manston Hall to Beckett Street, 294 to Gildersome Convalescent Hospital, 6 from Manston Hall to Ivy Lodge, 20 from their homes to Beckett Street Disinfecting Station, and 1 case of Smallpox removed from Stourton to Rothwell Cottage Hospital.

TABLE XIV.

Return for the fifty-three weeks ended January 2nd, 1897, of patients in hospital.

	1 Small-pox.	2 Scarlet fever.	3 Diphtheria.	4 Typhus fever.	5 Enteric, or typhoid fever.	6 Other or doubtful cases.	7 Total.
No. in hospital on Saturday, 28th of Dec., 1895 ...	...	84	...	...	26	4	114
No. since admitted ...	2	443	1	41	164	97	748
No. discharged ...	1	443	1	30	151	81	707
No. died ...	1	20	...	8	23	14	66
No. remaining in hospital, Jan. 2nd, 1897 ...	...	64	...	3	16	6	89

TABLE XV.

Canal boats.

Registered during the 53 weeks, 1896 ..	9
Transfers to fresh owners.	3
Struck off register, withdrawals, &c. . .	101
On register, January 2nd, 1897 ..	320
Visits of inspection	312

TABLE XVI.

Houses let in lodgings.

Registered during the year 1896 ..	—
Struck off register, removals, &c. . .	—
On register, January 2nd, 1897 ..	19
Visits of inspection	92

TABLE XVII.

Other work of Temporary Dwellings Inspector.

Visits of inspection to vans.	279
„ „ tents	14
„ „ common lodging-houses . . .	197
„ „ dirty and overcrowded houses	26
„ as to drainage	126
„ „ typhus, typhoid, &c.	1,509
„ „ pollutions of river Aire . . .	20
„ „ houses, insanitary area . . .	89
	<hr/> 2,260

J. SPOTTISWOODE CAMERON,

Medical Officer of Health.

TABLE A, Part 1.
Table shewing deaths recorded in the City of Leeds during the fifty-three weeks ended 2nd January, 1897, classified according to cause, age, and the registration sub-districts or institutions in which they occurred.

[illegible]

* Including the death of eight persons at Manston (outside the city boundary).

TABLE A, Part 2.

Table of populations, registered births, and mortality at certain ages,
in the registration sub-districts.

(Public institutions regarded as sub-districts.)

Population estimated to middle of 1896.												
REGISTRATION OF LEEDS CITY.	Population at all ages.		Registered Births.	Mortality from all causes, at subjoined ages.							Death- rate per 1,000 for each district.	
	Census 1891	Estimated of 1896		At all ages.	Under 1 year.	1 and under 5	5 and under 15	15 and under 25	25 and under 60	60 and under 65		65 and upwards
Leeds Township—North ..	60,618	61,396	2,260	1,095	402	193	33	33	248	60	121	17.55
Do. do. West ..	83,520	84,338	2,253	1,367	377	168	37	69	372	66	273	15.84
Do. do. South-East	33,385	33,674	1,146	714	206	159	30	28	139	30	66	20.87
Hunslet	58,164	63,962	2,132	1,178	378	227	36	53	274	66	144	18.13
Holbeck	23,592	26,470	900	494	152	68	19	26	122	31	76	18.37
Wortley	49,436	54,755	1,716	899	315	141	28	39	194	43	139	16.17
Kirkstall	29,911	36,890	1,040	504	113	66	32	21	144	24	104	13.45
Bramley	14,787	16,062	481	263	82	34	8	16	68	14	41	16.12
Chapelton	13,661	23,870	552	250	56	23	4	10	77	14	61	10.31
Osmondthorpe	431	432	6	10	2	1	..	..	3	1	3	22.79
Infirmary .. ..	..	..	..	412	12	32	46	45	236	21	20	..
*Fever Hospitals .. ..	..	..	..	67	3	20	5	16	21	..	2	..
WORKHOUSES { Leeds .. Hunslet .. Holbeck .. Bramley ..	..	..	58	313	20	4	5	9	131	37	107	..
	..	..	9	53	1	1	1	..	17	5	28	..
	..	..	13	30	1	..	..	2	6	4	17	..
	..	..	7	33	..	1	..	..	9	4	19	..
For the whole City.. ..	367,505	402,449	12,573	7,682	2,120	1,143	284	372	2,111	426	1,226	18.79

* Including the deaths of 8 persons at Manston (outside the city boundary).

1896.—FIRST QUARTER.

Table shewing Deaths recorded in the City of Leeds during the thirteen weeks ended 28th March, 1896, classified according to cause, age, and the registration sub-districts in which they occurred.

TOWNSHIPS. &c. ...	LEEDS			WORKHOUSES.												Fever Hos- pitals. §	In- firm- ary etc.	Osmond- thorpe. 432	Chapel- town. 23,870		Bramley 16,042		Kirkstall 36,890		Wortley. 54,755		Hunslet. 63,962		Holbeck. 26,470		Mortality in City.		Annual rate per 1,000 pop.	DEATHS OF																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	North.	West.	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ov.	und. ov.	und. ov.	und. ov.	und. ov.	und. ov.	und. ov.	und. ov.	und. ov.	und. ov.	und. ov.	und. ov.	und. ov.

§ There was no death at Maunston during the quarter. † No return received during quarter.

1896.—SECOND QUARTER.

Table shewing Deaths recorded in the City of Leeds during the thirteen weeks ended 27th June, 1896, classified according to cause, age, and the registration sub-districts in which they occurred.

TOWNSHIP &c.	LEEDS.			WORKHOUSES.												TOTAL Mortality in City.	Annual rate per 1,000 pop.	DEATHS OF																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	North.	West.	South E.	Hunslet.	Holbeck.	Wortley.	Kirkstall.	Bramley.	Chapel- town.	Osmon- thorpe.	Infirmary, etc.		Fever Hospital.	Leeds.				Hunslet.		Holbeck.		Bramley.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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* Including one death which occurred at Maunston, of a person belonging to the City, from Smallpox. † No return received during quarter.
 Bronchitis, pneumonia pleurisy—Infirmaries—should be 1-3 instead of 0-9, and the totals—under 5, over 5—altered accordingly.

1896.—THIRD QUARTER.

Table shewing Deaths recorded in the City of Leeds during the fourteen weeks ended 3rd October, 1896, classified according to cause, age, and the registration sub-districts in which they occurred.

TOWNSHIP. &c.	LEEDS.						WORKHOUSES.												TOTAL Mortality in City.	Annual rate per 1,000 pop.	DEATHS OF							
	North.		West.		South E.		Hunslet.				Holbeck.				Bramley.						Leeds persons occurring outside City.†	Out- siders occurring in City.						
	und.	ov.	und.	ov.	und.	ov.	und.	ov.	und.	ov.	und.	ov.	und.	ov.	und.	ov.	und.	ov.										
Provisionally Estim. Pop.— 402,449	61,336	84,938	33,674	26,470	54,755	36,890	16,062	23,870	432																			
Under and over 5.	und.	ov.	und.	ov.	und.	ov.	und.	ov.	und.	ov.	und.	ov.	und.	ov.	und.	ov.	und.	ov.	und.	ov.	und.	ov.	und.	ov.	und.	ov.	und.	ov.
Smallpox	14	7	6	1	4	1	5	4	1	1	1	5	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Measles	1	3	1	1	1	1	2	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Scarlatina	2	1	1	1	1	1	2	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Diphtheria	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Group (not spasmodic)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Whooping Cough	10	5	2	1	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Typhus	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Enteric	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Other or doubtful	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Diarrhea	36	30	22	15	30	5	9	8	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Cholera	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Rheumatic Fever	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Acute & Sub- acute Rheu- matism	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Erysipelas	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Pneumonia	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Puerperal Fever	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Ague	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Phthisis	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Bronchitis	17	23	8	9	12	3	7	1	3	1	1	7	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	
Pneumonia	23	21	26	28	12	10	7	1	3	1	1	13	4	3	1	1	1	1	1	1	1	1	1	1	1	1	1	
Pleurisy	23	21	26	28	12	10	7	1	3	1	1	13	4	3	1	1	1	1	1	1	1	1	1	1	1	1	1	
Heart Disease	23	21	26	28	12	10	7	1	3	1	1	13	4	3	1	1	1	1	1	1	1	1	1	1	1	1	1	
Injury, &c.	23	21	26	28	12	10	7	1	3	1	1	13	4	3	1	1	1	1	1	1	1	1	1	1	1	1	1	
Under and over 5	85	69	92	42	52	103	80	31	36	57	14	33	28	11	14	23	2	1	5	33	5	14	3	29	3	29	3	
All other causes	86	50	86	53	63	44	27	41	27	63	24	46	21	17	9	19	1	1	10	55	2	2	8	27	8	27	8	
Total	297	336	184	332	216	117	77	65	4	103	21	67	14	9	6	948	1035	1883	1837	41	41	41	41	41	41	41	41	
Mortality per 1,000 per an.	18.0	14.7	20.4	19.3	14.7	11.8	17.9	10.1	34.5																			

* There were six deaths at Manston during the quarter. † No return received during quarter.

1896.—FOURTH QUARTER.

Table shewing Deaths recorded in the City of Leeds during the thirteen weeks ended 2nd January, 1897, classified according to cause, age, and the registration sub-districts in which they occurred.

TOWNSHIP. &c.	L.E.F.D.S.						WORKHOUSES.												Fever Hospitals, etc.	In- firmaries, etc.	Osmond- thorpe.	Chapel- town.	Kirkstall.	Wortley.	Holbeck.	Hunslet.	TOTAL Mortality in City.						Annual rate per 1,000 pop.	DEATHS OF persons occurring outside City.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
	North.		West.		South E.		Hunslet.		Holbeck.		Wortley.		Kirkstall.		Chapel- town.		Osmond- thorpe.										Chapel- town.		Kirkstall.		Wortley.					Holbeck.		Hunslet.		Leeds.		Holbeck Bramley.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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Provisionally Estim. Pop.— 402,449	61,396	84,938	33,674				63,962	26,470	54,755	36,890	16,062	23,870	432																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										

* There was no death at Manston Hospital during the quarter, but one at the Cottages, which is included in "Fever Hospitals" column. † No return received during quarter.

Table shewing deaths recorded in the City of Leeds during the thirteen weeks ended 3rd April, 1897, classified according to cause, age, and the registration sub-districts in which they occurred.

TOWNSHIPS, &c. ...	L E E D S.						W O R K H O U S E S.												TOTAL Mortality in City.	Annual rate per 1,000 pop.	D E A T H S O F																																																																																																																																																																																																																																																																																																																																																																																																																										
	North.		West.		South E.		Hunslet.		Holbeck.		Wortley.		Kirkstall Bramley		Chapel- town.		Osmond- thorpe.				In- firmly etc.		Fever Hos- pitals.		Leeds.		Hunslet.		Holbeck		Bramley																																																																																																																																																																																																																																																																																																																																																																																																																
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* There was one death at Manston Hospital during the quarter from meningitis.

† No return received during quarter.

TABLE B, Part 1. (SUB-DISTRICTS).

TABLE OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer of Health, during the 53 weeks of 1896, in the Urban Sanitary District of Leeds; classified according to Diseases, Ages, and Localities.

Names of Localities adopted for the purpose of these Statistics.	Population at all ages.		Registered Births.	Aged under 5, 5 under 15, 15 upwards.	New Cases of Sickness in each Locality, coming to the knowledge of the Medical Officer of Health.													Number of such Cases Removed from their Homes in the several Localities for Treatment in the Isolation Hospitals.												
	Census, 1891.	Estimated middle of 1896.			1	2	3	4	Fever.					Cholera.	Erysipelas.	Other.	Total.	Small pox.	Scarlatina.	Diphtheria.	Membranous Group.	Fever.					Cholera.	Erysipelas.	Other.	Total.
									Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.									Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.				
North (H) ..	60,618	61,396	2,313	Under 5, 5 under 15, 15 upwards.	2	1	9	6	4	117	..	25	1	3	3	72						
West ..	83,520	84,938	2,253	Under 5, 5 under 15, 15 upwards.	4	18	41	2	51	8	192	..	55	7	22	7	2						
South-East ..	33,385	33,674	1,146	Under 5, 5 under 15, 15 upwards.	..	..	24	8	..	..	10	7	97	..	23	..	..	..	25	..	..	1	41
Hunslet ..	53,164	63,962	2,141	Under 5, 5 under 15, 15 upwards.	2	3	57	..	..	..	63	8	197	1	51	1	..	3	22	..	..	6	51		
Holbeck ..	23,592	26,470	913	Under 5, 5 under 15, 15 upwards.	..	5	6	..	..	..	1	2	61	..	14	..	..	..	5	..	..	1	1
Wortley ..	49,436	54,755	1,723	Under 5, 5 under 15, 15 upwards.	1	2	15	6	..	..	32	7	77	..	23	..	..	5	9	..	..	1	23	
Kirkstall ..	29,911	36,890	1,040	Under 5, 5 under 15, 15 upwards.	1	3	50	7	..	..	53	4	160	..	62	..	..	3	17	..	..	1	23	
Bramley ..	14,787	16,062	481	Under 5, 5 under 15, 15 upwards.	1	1	11	1	..	..	5	3	22	..	8	..	..	3	15	..	..	1	23	
Chapelton ..	13,661	23,870	552	Under 5, 5 under 15, 15 upwards.	1	24	24	1	..	..	27	1	64	1	17	..	..	..	12	..	..	2	22
Osmondthorpe ..	431	432	6	Under 5, 5 under 15, 15 upwards.	1	38	18	..	..	..	4	3	40	..	14	..	..	..	1	..	..	1	2
Totals ..	367,505	402,449	12,573	Under 5, 5 under 15, 15 upwards.	..	8	36	2	..	..	7	5	67	..	21	..	..	1	3	..	..	3	13	
Grand Total ..	..	..	..	..	..	44	36	..	..	..	38	5	53	..	21	..	..	1	5	..	..	5	13
						67	33	..	..	..	2	3	84	..	22	..	..	1	7	..	..	3	18
						26	21	19	3	77	..	7	1	1	3	18							
						14	15	2	21	..	4	1	4	4	6							
						8	11	3	12	2	39	..	6	3	3	2	9							
						15	1	1	7	1	19	..	3	3	3	2	3							
						30	2	1	1	..	39	..	8	1	4	3							
						9	3	7	1	25	..	2	1	3							
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Notification has been compulsory since the first of May, 1894. The City General Fever Hospital (the old House of Recovery), is situated in the district marked H. Cases admitted to the Isolation Hospitals from outside the city are not included in this table.

See note, p. 100. Three cases of scarlet (2 North, 1 Hunslet), reported in 1896 but hospitalised in 1897, are not included above.

TABLE B, Part 2. (Wards).

Names of Localities adopted for the purpose of these Statistics.	Population at all ages.		Aged under 5, 5 under 15, 15 upwards.	New Cases of Sickness in each Locality, coming to the knowledge of the Medical Officer of Health.												
	Census, 1891.	Estimated to middle of 1896.		1	2	3	4	5	6	7	8	9	10	11	12	13
				Small-pox.	Scarlatina.	Diphtheria.	Membranous Group.	Fevers.					Cholera.	Erysipelas.	Other.	TOTAL.
								Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.				
(a)	(b)	(c)	(d)													
Central	23,009	22,387	Under 5, .. 42	.. 42	7	2	..	5	..	..	..	..	4	..	60
			5 under 15, .. 64	.. 64	1	..	2	14	..	..	..	..	1	..	84
			15 upwards, .. 6	.. 6	8	..	9	16	..	..	1	..	10	2	53
North	26,596	36,138	Under 5, .. 41	.. 41	2	..	..	4	..	..	..	..	2	3	52
			5 under 15, .. 71	.. 71	1	1	1	19	..	..	..	..	..	4	97
			15 upwards, .. 14	.. 14	3	..	4	18	..	..	2	..	24	3	68
North-East (H) ..	24,190	25,084	Under 5, .. 17	.. 17	1	..	1	1	..	..	..	..	..	1	21
			5 under 15, .. 29	.. 29	3	..	4	3	..	..	..	..	..	2	41
			15 upwards, .. 6	.. 6	1	..	7	12	..	..	..	..	24	2	52
East	25,598	26,391	Under 5, .. 28	.. 28	5	2	..	3	..	..	..	..	3	2	43
			5 under 15, .. 37	.. 37	..	..	..	6	..	..	..	..	1	3	47
			15 upwards, .. 6	.. 6	1	..	5	13	..	..	3	..	24	6	58
South	17,255	16,802	Under 5, .. 34	.. 34	1	..	..	2	..	..	..	..	1	1	39
			5 under 15, .. 49	.. 49	1	..	..	19	..	..	..	..	1	1	71
			15 upwards, .. 10	.. 10	..	..	..	12	..	..	4	..	16	5	47
East Hunslet ..	25,386	27,504	Under 5, .. 31	.. 31	4	..	..	2	..	..	..	..	5	5	47
			5 under 15, .. 84	.. 84	..	..	2	8	..	..	..	..	..	4	98
			15 upwards, .. 18	.. 18	2	..	3	20	..	..	2	..	24	13	82
West Hunslet ..	23,794	28,183	Under 5, .. 20	.. 20	..	1	..	..	..	..	..	..	1	1	23
			5 under 15, .. 50	.. 50	2	3	..	19	..	..	..	..	4	..	78
			15 upwards, .. 8	.. 8	..	..	..	22	..	..	3	..	22	1	56
Holbeck	21,563	23,822	Under 5, .. 13	.. 13	2	1	..	1	..	..	..	..	2	1	20
			5 under 15, .. 28	.. 28	3	1	..	10	..	..	..	..	4	3	49
			15 upwards, .. 1	.. 1	4	2	..	22	..	..	2	..	25	1	57
Mill Hill	9,214	8,706	Under 5, .. 12	.. 12	..	2	..	1	..	..	..	..	..	5	20
			5 under 15, .. 17	.. 17	..	..	..	2	..	..	..	..	2	5	26
			15 upwards, .. 4	.. 4	3	..	1	7	..	..	..	..	15	3	33
West	24,668	24,760	Under 5, .. 8	.. 8	1	..	..	1	..	..	..	..	1	1	12
			5 under 15, .. 20	.. 20	1	..	..	6	..	..	..	..	3	2	32
			15 upwards, .. 9	.. 9	3	..	..	12	..	..	1	..	18	3	46
North-West ..	28,363	30,365	Under 5, .. 25	.. 25	4	2	..	4	..	..	..	..	6	1	42
			5 under 15, .. 62	.. 62	5	..	..	12	..	..	..	..	3	2	84
			15 upwards, .. 1	.. 1	13	7	..	22	..	..	6	..	21	1	71
Brunswick ..	22,752	23,488	Under 5, .. 17	.. 17	2	..	..	2	..	..	..	..	3	..	24
			5 under 15, .. 52	.. 52	1	..	..	5	..	..	..	..	3	1	62
			15 upwards, .. 19	.. 19	1	..	1	16	..	..	1	..	9	1	48
New Wortley ..	19,410	19,336	Under 5, .. 9	.. 9	3	..	..	1	..	..	..	..	2	1	16
			5 under 15, .. 17	.. 17	3	..	..	11	..	..	..	..	4	1	36
			15 upwards, .. 2	.. 2	1	..	..	15	2	..	4	..	10	4	38
Armley and Wortley	26,436	31,316	Under 5, .. 14	.. 14	1	..	..	3	..	..	..	..	2	2	22
			5 under 15, .. 19	.. 19	..	..	..	7	..	..	..	..	2	..	28
			15 upwards, .. 6	.. 6	3	..	..	19	..	..	1	..	25	1	55
Bramley	18,377	20,166	Under 5, .. 17	.. 17	5	1	..	..	..	..	..	..	..	..	23
			5 under 15, .. 15	.. 15	..	..	..	1	..	..	..	..	1	..	17
			15 upwards, .. 8	.. 8	3	..	..	12	..	..	4	..	16	2	45
Hendingley ..	30,894	38,001	Under 5, .. 44	.. 44	9	..	..	3	..	..	..	..	3	..	59
			5 under 15, .. 71	.. 71	10	..	1	4	..	..	..	..	2	3	91
			15 upwards, .. 26	.. 26	4	..	1	21	..	..	3	..	19	3	77
Totals	367,505	402,449	Under 5, .. 372	.. 372	47	11	1	33	..	..	..	..	35	24	523
			5 under 15, .. 685	.. 685	31	5	10	146	..	..	..	..	31	33	941
			15 upwards, .. 2	.. 2	159	42	31	259	2	..	..	..	302	52	886
Grand Total	2	1216	120	16	42	438	2	..	37	..	368	109	2,350

See note, text. p. 100.

TABLE B, Part 2. Wards (continued).

Names of Localities adopted for the purpose of these Statistics.	Population at all ages.			Number of such Cases Removed from their Homes in the several Localities for Treatment in Isolation Hospitals.												
	Census, 1891.	Estimated to middle of 1896.	Aged under 5, 5 under 15, 15 upwards.	1	2	3	4	5	6	7	8	9	10	11	12	13
				Small-pox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Fevers, Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Other.	Total.
(a)	(b)	(c)	(d)													
Central ..	23,009	22,387	Under 5, 5 under 15, 15 upwards.		5 20 1			2 8	7 7						2 3	5 31 19
North ..	26,596	36,138	Under 5, 5 under 15, 15 upwards.		15 22 6			1 4	3 11 13						2 4 2	20 38 25
North-East (H)	24,190	25,034	Under 5, 5 under 15, 15 upwards.		7 19 5			1 4	3 3 7						1 1 2	9 27 21
East ..	25,598	26,391	Under 5, 5 under 15, 15 upwards.		11 16 4			2 5 5							1 1 6	14 22 24
South ..	17,255	16,802	Under 5, 5 under 15, 15 upwards.		11 26 5				10 4						1 5	12 37 14
East Hunslet ..	25,386	27,504	Under 5, 5 under 15, 15 upwards.		9 30 5			2 3	4 7						3 3 9	12 39 24
West Hunslet ..	23,794	28,183	Under 5, 5 under 15, 15 upwards.		2 13 1				3 4						1 1	2 16 6
Holbeck ..	21,563	23,822	Under 5, 5 under 15, 15 upwards.		6 17 1				3 12						1 2	7 22 14
Mill Hill ..	9,214	8,706	Under 5, 5 under 15, 15 upwards.		10 13 4										3 3	10 16 14
West ..	24,668	24,760	Under 5, 5 under 15, 15 upwards.		4 4 4			2 2							1 1	4 7 7
North-West ..	23,363	30,365	Under 5, 5 under 15, 15 upwards.		9 20 1			1 4 7							1 2 1	11 26 16
Brunswick ..	22,752	23,488	Under 5, 5 under 15, 15 upwards.		6 14 4			1 2 6							1 1	7 17 12
New Wortley ..	19,410	19,336	Under 5, 5 under 15, 15 upwards.		1 6 1			2 3							1 4	2 8 8
Armley and Wortley	26,436	31,316	Under 5, 5 under 15, 15 upwards.		2 7 1			1 2								3 7 4
Bramley ..	18,377	20,166	Under 5, 5 under 15, 15 upwards.		5 6 3											5 6 9
Headingley ..	30,894	38,001	Under 5, 5 under 15, 15 upwards.		21 26 7			1 1 1								21 23 18
Totals ..	367,505	402,449	Under 5, 5 under 15, 15 upwards.		124 259 58			1 10 30	8 57 100						11 21 44	144 347 235
Grand Total ..				2	441	1		41	165						76	726

Three cases of scarlet fever (1 Central, 1 North, 1 East Hunslet), reported in 1895, are not included above, as they were hospitalised in 1897.

TABLE B, Part 3.

The following new cases of Infectious Sickness were reported during the life of the patient in the several Registration Sub-districts and Wards of the City of Leeds during the thirteen weeks ended March 28th, 1896.

		Where treated.	Small-pox	Scarlet fever.	Diphtheria.	Membranous croup.	Typhus fever.	Typhoid fever.	Continued fever.	Puerperal fever.	Erysipelas.	Cholera.	Other.	TOTALS.
SUB-DISTRICTS.	North.....	Hosp.	..	11	...	...	...	6	...	...	...	..	2	19
		Home	...	8	7	1	..	2	...	1	10	...	...	29
	West.....	Hosp.	...	19	1	...	...	5	...	...	...	..	6	31
		Home	...	13	11	1	...	11	...	3	14	..	...	53
	South-East.....	Hosp.	..	9	...	...	...	5	...	...	..	..	1	15
		Home	...	5	...	1	...	2	..	1	7	...	1	17
	Hunslet.....	Hosp.	...	21	...	...	...	...	...	...	...	..	3	24
		Home	...	22	1	..	...	3	..	...	10	...	...	36
	Holbeck.....	Hosp.	..	6	...	...	...	3	...	...	...	...	...	9
		Home	..	4	3	1	...	3	...	1	9	...	...	21
	Wortley.....	Hosp.	...	5	...	...	...	2	...	...	...	...	1	8
		Home	...	13	1	1	..	12	...	1	10	..	...	38
	Kirkstall.....	Hosp.	...	15	...	...	...	1	...	...	...	...	1	17
		Home	...	11	6	...	...	6	...	2	10	...	1	36
	Bramley.....	Hosp.	...	2	..	...	...	...	...	...	...	...	...	2
		Home	...	2	1	...	...	...	...	1	2	...	...	6
	Chapeltown.. ..	Hosp.	...	...	...	...	...	...	...	...	...	...	...	...
		Home	...	1	6	...	...	...	...	..	1	...	...	8
	Osmondthorpe.....	Hosp.	...	...	...	...	...	...	...	...	...	...	...	...
		Home	...	...	...	...	...	...	...	...	...	...	...	...
WARDS.	Central.....	Hosp.	...	3	...	...	...	...	...	...	..	..	1	4
		Home	...	6	5	...	...	2	...	1	3	..	...	17
	North.....	Hosp.	...	4	...	...	...	4	..	...	...	..	...	8
		Home	..	2	2	..	...	...	...	...	3	...	...	7
	North-East.....	Hosp.	...	3	...	...	...	2	...	...	...	...	1	6
		Home	...	1	2	...	...	...	...	...	5	...	...	8
	East.....	Hosp.	...	8	...	...	...	5	...	...	...	...	1	14
		Home	..	4	...	1	...	1	...	...	4	..	1	11
	South.....	Hosp.	...	2	...	...	...	...	...	...	...	...	1	3
		Home	...	6	...	...	...	1	..	1	7	...	...	15
	East-Hunslet.....	Hosp.	...	15	...	...	...	...	...	...	...	..	1	16
		Home	...	6	...	...	...	1	...	...	3	..	...	10
	West-Hunslet.....	Hosp.	...	5	..	...	...	...	...	...	...	...	1	6
		Home	..	13	1	1	..	2	...	...	3	...	...	20
	Holbeck.....	Hosp.	..	6	...	...	...	3	...	...	...	...	...	9
		Home	..	2	3	1	...	3	...	1	8	...	...	18
	Mill Hill.. ..	Hosp.	...	9	...	...	...	1	...	...	...	...	3	13
		Home	...	1	...	1	...	2	...	...	...	...	...	4
	West.....	Hosp.	..	6	...	...	...	1	..	...	..	...	1	8
		Home	...	1	2	...	...	3	...	...	5	...	...	11
	North-West.....	Hosp.	...	3	1	..	..	2	...	...	...	...	1	7
		Home	...	7	8	..	...	4	...	2	8	...	..	29
	Brunswick.....	Hosp.	...	2	...	...	...	1	...	...	...	...	1	4
		Home	...	4	2	...	...	2	..	1	2	...	...	11
	New Wortley.....	Hosp.	...	3	...	...	...	1	...	...	...	...	1	5
		Home	..	9	..	...	...	4	...	1	4	...	...	18
	Armley & Wortley	Hosp.	...	2	...	...	...	1	...	...	...	...	..	3
		Home	...	3	1	...	...	8	...	...	5	...	...	17
	Bramley.....	Hosp.	..	2	...	...	...	...	...	..	...	...	...	2
		Home	...	3	1	1	..	...	...	1	3	...	...	9
	Headingley.....	Hosp.	...	15	...	...	...	1	...	..	...	..	1	17
		Home	...	11	9	...	...	6	...	2	10	...	1	39
CITY.....	Hosp.	...	...	88	1	...	...	22	...	...	..	...	14	125
		Home	...	79	36	5	...	39	...	10	73	...	2	244
	Cases	...	...	167	37	5	...	61	...	10	73	...	16	369

TABLE B, Part 4.

The following new cases of Infectious Sickness were reported during the life of the patient in the several Registration Sub-districts and Wards of the City of Leeds during the thirteen weeks ended June 27th, 1896.

	Where treated.	Small-pox.	Scarlet fever.	Diphtheria.	Membranous croup.	Typhus fever.	Typhoid fever.	Continued fever.	Puerperal fever.	Erysipelas.	Cholera.	Other.	TOTALS.
SUB-DISTRICTS.	North	{ Hosp. ...	10	...	...	...	1	...	...	...	...	4	15
	Home .....	...	7	2	...	...	3	...	1	12	...	...	25
	West	{ Hosp. 1	13	...	...	...	2	...	...	...	...	3	19
	Home .....	...	17	8	2	...	5	...	1	16	...	3	52
	South-East	{ Hosp. ...	8	...	...	...	1	...	...	...	...	1	10
	Home .....	...	7	3	1	...	...	...	2	9	...	1	23
	Hunslet	{ Hosp. ...	17	...	...	...	5	...	...	...	...	5	27
	Home .....	...	16	2	2	...	5	...	2	15	...	5	47
	Holbeck	{ Hosp. 1	7	...	...	...	1	...	...	...	...	...	9
	Home .....	...	5	2	...	...	2	...	...	8	...	...	17
	Wortley	{ Hosp. ...	1	...	...	...	1	...	...	...	...	2	4
	Home .....	...	6	6	...	...	4	...	1	10	...	2	29
	Kirkstall	{ Hosp. ...	10	...	...	...	3	...	...	...	...	...	13
WARDS.	Home .....	...	11	5	...	...	4	...	...	4	...	...	24
	Bramley	{ Hosp. ...	6	...	...	...	...	...	...	...	...	...	6
	Home .....	...	...	3	...	...	1	...	...	4	...	...	8
	Chapeltown	{ Hosp. ...	3	...	...	...	...	...	...	...	...	...	3
	Home .....	...	...	1	...	...	3	...	...	1	...	...	5
	Osmondthorpe ...	{ Hosp. ...	...	...	...	...	...	...	...	...	...	...	...
	Home .....	...	...	...	...	...	...	...	...	...	...	...	...
	Central	{ Hosp. ...	2	...	...	...	...	...	...	...	...	...	2
	Home .....	...	2	2	...	...	1	...	...	2	...	...	7
	North	{ Hosp. ...	3	...	...	...	1	...	...	...	...	2	6
	Home .....	...	4	...	...	...	4	...	1	5	...	...	14
	North-East	{ Hosp. ...	7	...	...	...	...	...	...	...	...	2	9
	Home .....	...	1	1	...	...	...	...	...	6	...	...	8
WARDS.	East.....	{ Hosp. ...	6	...	...	...	1	...	...	...	...	1	8
	Home .....	...	4	3	1	...	...	...	1	5	...	1	15
	South	{ Hosp. ...	8	...	...	...	1	...	...	...	...	1	10
	Home .....	...	4	...	...	...	...	...	1	6	...	...	11
	East-Hunslet	{ Hosp. ...	8	...	...	...	4	...	...	...	...	4	16
	Home .....	...	...	2	...	...	4	...	1	8	...	5	20
	West-Hunslet.....	{ Hosp. ...	3	...	...	...	...	...	...	...	...	...	3
	Home .....	...	15	...	2	...	1	...	1	6	...	...	25
	Holbeck	{ Hosp. 1	7	...	...	...	1	...	...	...	...	...	9
	Home .....	...	5	2	...	...	2	...	...	7	...	...	16
	Mill Hill.....	{ Hosp. ...	7	...	...	...	...	...	...	...	...	2	9
	Home .....	...	...	1	1	...	...	...	...	6	...	...	8
	West.....	{ Hosp. ...	...	...	...	...	...	...	...	...	...	...	...
	Home .....	...	11	2	...	...	...	...	...	4	...	3	20
WARDS.	North-West	{ Hosp. 1	6	...	...	...	2	...	...	...	...	1	10
	Home .....	...	4	5	1	...	2	...	1	5	...	...	18
	Brunswick	{ Hosp. ...	...	...	...	...	...	...	...	...	...	...	...
	Home .....	...	1	...	...	...	3	...	...	1	...	1	6
	New Wortley	{ Hosp. ...	1	...	...	...	1	...	...	...	...	2	4
	Home .....	...	2	6	...	...	1	...	1	2	...	1	13
	Armley & Wortley	{ Hosp. ...	...	...	...	...	...	...	...	...	...	...	...
	Home .....	...	4	...	...	...	2	...	...	6	...	1	13
	Bramley	{ Hosp. ...	6	...	...	...	...	...	...	...	...	...	6
	Home .....	...	...	3	...	...	2	...	...	6	...	...	11
	Headingley.....	{ Hosp. ...	11	...	...	...	3	...	...	...	...	...	14
	Home .....	...	11	5	...	...	5	...	...	4	...	...	25
	CITY	{ Hosp. 2	75	...	...	...	14	...	...	...	...	15	100
	Home .....	...	69	32	5	...	27	...	7	79	...	11	230
	Cases	2	144	32	5	...	41	...	7	79	...	20	336

1 case scarlet Wortley, Armley and Wortley, reported this quarter, not included in next quarter. 1 case typhoid (West, North-West), similarly counted in next quarter.

TABLE B, Part 5.

The following new cases of Infectious Sickness were reported during the life of the patient in the several Registration Sub-districts and Wards of the City of Leeds during the fourteen weeks ended October 3rd, 1896.

	Where treated.	Small-pox.	Scarlet fever.	Diphtheria.	Membranous group.	Typhus fever.	Typhoid fever.	Continued fever.	Puerperal fever.	Erysipelas.	Cholera.	Other.	TOTALS.
SUB-DISTRICTS.	North	{ Hosp. ... 32	...	...	...	26	34	...	...	...	...	8	100
		{ Home ... 43	...	5	1	...	19	...	...	20	...	...	88
	West	{ Hosp. ... 27	...	...	...	2	12	...	...	...	...	2	43
		{ Home ... 28	...	2	1	...	24	...	3	27	...	5	90
	South-East	{ Hosp. ... 19	...	...	...	...	3	...	...	...	...	4	26
		{ Home ... 8	...	3	...	...	3	...	...	9	...	1	24
	Hunslet	{ Hosp. ... 25	...	...	...	5	12	...	...	...	...	7	49
		{ Home ... 68	...	3	1	...	39	...	3	17	...	3	134
	Holbeck	{ Hosp. ... 7	...	...	...	...	5	...	...	...	...	...	12
		{ Home ... 8	...	1	1	...	10	...	...	7	...	2	20
	Wortley	{ Hosp. ... 10	...	...	...	...	4	...	...	...	...	2	16
		{ Home ... 20	...	3	...	...	19	...	1	17	...	...	60
WARDS.	Kirkstall	{ Hosp. ... 3	...	...	...	2	1	...	...	...	...	2	18
		{ Home ... 30	...	1	...	...	6	...	1	2	...	1	41
	Bramley	{ Hosp. ... 3	...	...	...	...	2	...	...	...	...	...	5
		{ Home ... 11	...	3	...	...	2	...	1	2	...	...	19
	Chapeltown	{ Hosp. ... 1	...	...	...	...	...	...	...	...	...	...	1
		{ Home ... 19	...	...	1	1	2	...	1	3	...	1	28
	Osmondthorpe ...	{ Hosp. ...	...	...	...	...	...	...	...	...	...	...	...
		{ Home ... 1	...	...	...	...	1	...	...	...	...	...	2
	Central	{ Hosp. ... 11	...	...	...	10	13	...	...	...	...	4	38
		{ Home ... 35	...	4	1	...	14	...	...	5	...	...	59
	North	{ Hosp. ... 16	...	...	...	4	17	...	...	...	...	4	41
		{ Home ... 19	...	...	1	1	6	...	1	9	...	1	38
	North-East	{ Hosp. ... 6	...	...	...	12	4	...	...	...	...	...	22
		{ Home ... 7	...	1	...	...	2	...	...	9	...	...	19
	East.....	{ Hosp. ... 10	...	...	...	...	3	...	...	...	...	4	17
		{ Home ... 4	...	2	...	...	3	...	...	8	...	1	18
	South	{ Hosp. ... 22	...	...	...	...	3	...	...	...	...	1	26
		{ Home ... 25	...	1	...	...	7	...	...	3	...	...	36
	East-Hunslet	{ Hosp. ... 9	...	...	...	5	6	...	...	...	...	6	26
		{ Home ... 34	...	2	...	...	11	...	1	6	...	2	56
	West-Hunslet.....	{ Hosp. ... 2	...	...	...	...	3	...	...	...	...	...	5
		{ Home ... 17	...	1	1	...	23	...	1	11	...	1	55
	Holbeck	{ Hosp. ... 8	...	...	...	...	5	...	...	...	...	...	13
		{ Home ... 5	...	1	1	...	8	...	1	5	...	2	23
	Mill Hill.....	{ Hosp. ... 6	...	...	...	1	3	...	...	...	...	...	10
		{ Home ... 2	...	1	...	...	2	...	...	7	...	5	17
	West.....	{ Hosp. ... 2	...	...	...	...	2	...	...	...	...	1	5
		{ Home ... 3	...	1	...	...	7	...	...	8	...	...	19
	North-West	{ Hosp. ... 12	...	...	...	...	5	...	...	...	...	...	17
		{ Home ... 8	...	...	1	...	13	...	3	8	...	...	33
	Brunswick	{ Hosp. ... 7	...	...	...	1	2	...	...	...	...	1	11
		{ Home ... 16	...	...	...	...	2	...	...	4	...	...	22
	New Wortley	{ Hosp. ... 4	...	...	...	...	3	...	...	...	...	2	9
		{ Home ... 6	...	1	...	...	12	...	...	6	...	...	25
	Armley & Wortley	{ Hosp. ... 5	...	...	...	...	1	...	...	...	...	...	6
		{ Home ... 14	...	2	...	...	7	...	1	10	...	...	34
	Bramley	{ Hosp. ... 4	...	...	...	...	2	...	...	...	...	...	6
		{ Home ... 11	...	3	...	...	2	...	1	3	...	...	20
	Headingley.....	{ Hosp. ... 13	...	...	...	2	1	...	...	...	...	2	18
		{ Home ... 30	...	1	...	...	6	...	1	2	...	1	41
CITY	{ Hosp. ... 137	...	...	...	...	35	73	...	...	...	...	25	270
	{ Home ... 236	...	21	...	5	1	125	...	10	104	...	13	515
	{ Cases ... 373	...	21	...	5	36	198	...	10	104	...	38	785

Cases (1 scarlet, 1 typhoid), from last quarter included above. Three scarlet (North, Holbeck, Kirkstall—Central, West Hunslet, Headingley), isolated next quarter not included above. One typhoid (Hunslet West Hunslet), similarly.

TABLE B, Part 6.

The following new cases of Infectious Sickness were reported during the life of the patient in the several Registration Sub-districts and Wards of the City of Leeds during the thirteen weeks ended January 2nd, 1897.

	Where treated.	Small-pox.	Scarlet fever.	Diphtheria.	Membranous croup.	Typhus fever.	Typhoid fever.	Continued fever.	Puerperal fever.	Erysipelas.	Cholera.	Other.	TOTALS
SUB-DISTRICTS.	North	{ Hosp. ... 38	...	...	...	...	9	...	...	...	...	3	50
	Home .....	...	92	7	1	...	12	...	...	16	...	2	130
	West	{ Hosp. ... 38	...	...	...	1	12	...	...	...	...	3	54
	Home .....	...	101	4	...	...	18	...	1	26	...	3	153
	South East	{ Hosp. ... 8	...	...	...	5	7	...	...	...	...	3	23
	Home .....	...	31	1	...	...	3	...	3	11	...	...	49
	Hunslet	{ Hosp. ... 26	...	...	...	...	15	...	...	...	...	7	48
	Home .....	...	78	3	...	...	20	...	2	21	...	...	124
	Holbeck	{ Hosp. ... 4	...	...	...	...	6	...	...	...	...	3	13
	Home .....	...	10	1	...	...	6	...	...	11	...	...	28
	Wortley	{ Hosp. ... 4	...	...	...	...	1	...	...	...	...	1	6
	Home .....	...	11	1	...	...	15	2	3	12	...	1	45
	Kirkstall	{ Hosp. ... 12	...	...	...	...	3	...	...	...	...	...	15
WARDS.	Home .....	...	35	8	...	...	3	...	...	8	...	1	55
	Bramley	{ Hosp. ... 2	...	...	...	...	2	...	...	...	...	2	6
	Home .....	...	12	1	...	...	5	...	1	4	...	...	23
	Chapelton	{ Hosp. ... 9	...	...	...	...	1	...	...	...	...	...	10
	Home .....	...	21	4	...	...	...	...	...	3	...	...	28
	Osmondthorpe	{ Hosp. ...	...	...	...	...	...	...	...	...	...	...	...
	Home .....	...	...	...	...	...	...	...	...	...	...	...	...
	Central	{ Hosp. ... 10	...	...	...	1	1	...	...	...	...	...	12
	Home .....	...	43	5	1	...	4	...	...	5	...	...	58
	North	{ Hosp. ... 26	...	...	...	...	5	...	...	...	...	2	27
	Home .....	...	58	4	...	...	4	...	...	9	...	1	76
	North-East	{ Hosp. ... 15	...	...	...	...	4	...	...	...	...	1	20
WARDS.	Home .....	...	12	1	...	...	4	...	...	4	...	1	22
	East	{ Hosp. ... 7	...	...	...	5	7	...	...	...	...	2	21
	Home .....	...	28	1	...	...	2	...	2	11	...	...	44
	South	{ Hosp. ... 10	...	...	...	...	10	...	...	...	...	4	24
	Home .....	...	16	1	...	...	11	...	2	2	...	...	32
	East-Hunslet	{ Hosp. ... 12	...	...	...	...	1	...	...	...	...	4	17
	Home .....	...	49	2	...	...	3	...	...	12	...	...	66
	West-Hunslet	{ Hosp. ... 6	...	...	...	...	4	...	...	...	...	...	10
	Home .....	...	17	...	...	...	8	...	1	7	...	...	33
	Holbeck	{ Hosp. ... 3	...	...	...	...	6	...	...	...	...	3	12
	Home .....	...	9	1	...	...	5	...	...	11	...	...	26
	Mill Hill	{ Hosp. ... 5	...	...	...	...	2	...	...	...	...	1	8
	Home .....	...	3	1	...	...	...	...	...	4	...	2	10
	West	{ Hosp. ... 4	...	...	...	...	1	...	...	...	...	...	5
	Home .....	...	10	...	...	...	5	...	1	5	...	1	22
	North-West	{ Hosp. ... 14	...	...	...	...	3	...	...	...	...	2	19
	Home .....	...	46	2	...	...	7	...	...	9	...	...	64
	Brunswick	{ Hosp. ... 15	...	...	...	...	6	...	...	...	...	...	21
	Home .....	...	42	2	...	...	7	...	...	8	...	...	59
	New Wortley	{ Hosp. ...	...	...	...	...	...	...	...	...	...	...	...
	Home .....	...	3	...	...	...	5	2	2	4	...	...	16
	Armley & Wortley	{ Hosp. ... 3	...	...	...	...	1	...	...	...	...	1	5
	Home .....	...	8	1	...	...	9	...	...	8	...	1	27
	Bramley	{ Hosp. ... 2	...	...	...	...	2	...	...	...	...	2	6
	Home .....	...	12	1	...	...	5	...	2	5	...	...	25
	Headingley	{ Hosp. ... 15	...	...	...	...	3	...	...	...	...	...	18
	Home .....	...	35	8	...	...	3	...	...	8	...	1	55
CITY	{ Hosp. ... 141	...	...	...	...	6	50	...	...	...	...	22	225
	Home .....	...	391	30	1	...	82	2	10	112	...	7	635
	Cases .....	...	532	30	1	6	138	2	10	112	...	29	500

Three scarlets, one typhoid brought forward from previous quarter. Three of scarlet (2 North, 1 Hunslet Central, North, East Hunslet), carried forward.

TABLE B, Part 7

New cases of Infectious Sickness heard of in the several Sub-districts and Wards of the City of Leeds during the thirteen weeks ended April 3rd, 1897.

		Where treated.	Small-pox	Scarlet fever.	Diphtheria	Membranous croup.	Typhus fever.	Typhoid fever.	Continued fever.	Puerperal fever.	Erysipelas.	Cholera.	Other.	TOTALS.
SUB-DISTRICTS.	North.....	{ Hosp.	..	62	..	..	..	4	..	..	..	..	66	144
		{ Home	..	44	5	3	..	8	..	3	14	..	78	
	West.....	{ Hosp.	..	47	..	..	..	4	..	..	..	..	52	173
		{ Home	..	66	15	..	..	6	..	4	30	..	121	
	South-East.....	{ Hosp.	..	19	..	..	..	3	..	..	..	..	22	47
		{ Home	..	16	2	..	..	3	..	2	2	..	25	
	Hunslet.....	{ Hosp.	..	14	..	..	..	10	..	..	..	..	24	78
		{ Home	..	33	6	..	..	4	..	2	9	..	54	
	Holbeck.....	{ Hosp.	..	2	..	..	..	1	..	..	..	..	4	20
		{ Home	..	4	3	1	..	4	..	..	4	..	16	
	Wortley.....	{ Hosp.	..	10	..	..	..	1	..	..	..	..	12	47
		{ Home	..	11	6	3	..	2	..	1	11	..	35	
	Kirkstall.....	{ Hosp.	..	12	..	..	..	..	..	..	..	..	12	50
		{ Home	..	11	8	..	..	10	..	2	7	..	38	
	Bramley.....	{ Hosp.	..	1	..	..	..	..	..	..	..	..	1	9
		{ Home	..	1	1	..	..	..	..	..	5	..	8	
	Chapelton.....	{ Hosp.	..	9	..	..	..	..	..	..	..	..	9	56
		{ Home	..	37	7	..	..	1	..	..	2	..	47	
	Osmondthorpe.....	{ Hosp.	..	..	..	..	..	..	..	..	..	..	..	..
		{ Home	..	..	..	..	..	..	..	..	..	..	..
WARDS.	Central.....	{ Hosp.	..	6	..	..	..	..	..	..	..	..	6	45
		{ Home	..	27	3	3	..	2	..	1	2	..	36	
	North.....	{ Hosp.	..	47	..	..	..	2	..	..	..	..	49	112
		{ Home	..	40	8	..	..	2	..	2	11	..	63	
	North-East.....	{ Hosp.	..	18	..	..	..	2	..	..	..	..	20	36
		{ Home	..	9	..	..	..	4	..	..	3	..	16	
	East.....	{ Hosp.	..	19	..	..	..	3	..	..	..	..	22	43
		{ Home	..	14	2	..	..	2	..	1	2	..	21	
	South.....	{ Hosp.	..	2	..	..	..	2	..	..	..	..	4	17
		{ Home	..	7	3	..	..	1	..	1	1	..	13	
	East-Hunslet.....	{ Hosp.	..	9	..	..	..	3	..	..	..	..	12	42
		{ Home	..	16	3	..	..	3	..	2	6	..	30	
	West-Hunslet.....	{ Hosp.	..	3	..	..	..	5	..	..	..	..	8	24
		{ Home	..	12	1	..	..	1	..	..	2	..	16	
	Holbeck.....	{ Hosp.	..	2	..	..	..	1	..	..	..	..	4	19
		{ Home	..	4	2	1	..	4	..	..	4	..	15	
	Mill Hill.....	{ Hosp.	..	5	..	..	..	..	..	..	..	..	5	13
		{ Home	..	2	..	..	..	..	..	1	5	..	8	
	West.....	{ Hosp.	..	3	..	..	..	1	..	..	..	..	4	37
		{ Home	..	12	9	..	..	1	..	1	10	..	33	
	North-West.....	{ Hosp.	..	24	..	..	..	2	..	..	..	..	26	72
		{ Home	..	26	5	..	..	5	..	1	9	..	46	
	Brunswick.....	{ Hosp.	..	15	..	..	..	1	..	..	..	..	17	56
		{ Home	..	31	2	..	..	..	..	1	5	..	39	
	New Wortley.....	{ Hosp.	..	3	..	..	..	..	..	..	..	..	3	17
		{ Home	..	2	3	1	..	2	..	..	6	..	14	
	Armley & Wortley	{ Hosp.	..	7	..	..	..	1	..	..	..	..	9	30
		{ Home	..	9	3	2	..	1	..	..	5	..	21	
	Bramley.....	{ Hosp.	..	1	..	..	..	..	..	..	..	..	1	11
		{ Home	..	1	1	..	..	..	..	1	6	..	10	
	Headingley.....	{ Hosp.	..	12	..	..	..	..	..	..	..	..	12	50
		{ Home	..	11	8	..	..	10	..	2	7	..	38	
	CITY.....	{ Hosp.	..	176	..	..	..	23	..	..	..	..	3	202
		{ Home	..	223	53	7	..	38	..	14	84	..	3	
		Cases	..	399	53	7	..	61	..	14	84	..	6	

During this quarter we have only been able to admit 7 cases of typhoid to our Hospital. Sixteen cases sent to the General Infirmary from sub-districts—North, 2; West, 2; South-East, 3; Hunslet, 8; and Wortley, 1; (or Wards—North, 1; North-East, 1; East, 3; South, 1; East-Hunslet, 2; West-Hunslet, 5; West, Brunswick, and Armley, 1 each), are included above as sent to hospital.

Three scarlets brought forward. Five scarlets, not included above, carried forward to next quarter.

TABLE C.—(Continued.)

TOWNSHIPS, &c. ...	LEEDS.												Deaths of Out- siders occurring in City.	TOTAL mortality in City.	Annual rate per 1,000 pop.							
	North.			West.			South E.			Hofbeck Wortley, Kirk-till Bramley, Osmond- thorpe.												
	und 5	ov. 5	und 5	ov. 5	und 5	ov. 5	und 5	ov. 5	und 5	ov. 5	und 5	ov. 5										
Under and over 5	14	...	15	...	14	...	16	...	3	...	6	...	1	1	...	2	...	71	2	73	0.18	
Tabes Mesenterica	10	5	20	5	5	...	6	...	3	...	3	...	1	...	...	19	...	14	1	15	0.04
Tub. Meningitis...	2	...	1	...	2	...	3	...	2	...	1	...	1	...	...	18	...	18	595	613	1.50
Hydrocephalus	4	126	4	118	...	80	5	68	...	43	3	69	1	...	...	12	19	12	19	22	0.05
Phtisis	...	2	4	5	1	...	2	...	3	1	...	1	...	...	...	...	...	...	...	...	0.16
Tub. Peritonitis...	7	6	8	5	2	...	5	2	2	...	4	5	...	...	...	...	...	...	...	...	0.02
Other Tuberculous	2	...	1	1	1	...	2	...	2	...	...	...	...	...	...	...	...	...	...	...	0.06
Scrofula	...	6	1	3	...	1	...	4	...	...	...	...	...	...	...	...	...	...	...	...	0.06
Anemia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.06
Diabetes, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.06
Premature Birth	35	...	61	...	31	...	35	...	14	...	49	...	16	...	...	12	...	268	...	268	0.66
Malformations and Atelectasis (15)	8	...	10	...	5	...	7	...	5	...	...	...	6	1	1	...	...	43	1	41	0.11
Old Age...	...	39	...	69	...	18	...	61	...	36	...	46	...	27	...	7	...	...	325	325	0.80
Brain Disease	...	29	2	46	1	25	2	14	...	13	1	16	...	16	...	3	...	...	...	...	0.44
Meningitis	10	6	9	7	1	6	23	4	4	...	15	1	4	5	1	2	...	6	172	178	0.26	
Apoplexy	...	18	1	29	...	11	...	32	...	15	...	24	...	8	...	3	...	69	36	105	0.36	
Paralysis	1	8	1	16	...	4	1	14	...	8	1	7	...	6	...	3	...	...	145	146	0.18
Gen. Paralysis—	...	2	...	2	...	...	...	1	...	...	...	1	...	...	...	...	...	...	6	6	0.01
Insanity	...	3	...	6	...	3	...	3	...	2	...	2	...	2	...	...	...	...	23	24	0.08
Epilepsy	...	34	1	69	2	34	67	...	25	...	52	...	14	...	4	...	...	319	3	322	0.78
Convulsions...	1	...	1	...	...	...	2	...	...	...	1	...	...	...	...	...	...	6	...	6	0.01
Laryngismus-Stridulus	...	3	1	6	...	1	1	1	...	3	...	2	...	2	...	1	2	20	22	0.05
Other Diseases of Nervous System	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.05
Dis. of Organs of Special Sense	...	1	...	2	...	...	...	1	...	...	...	2	1	...	...	...	...	1	8	9	0.02
Endocarditis, &c.	...	36	...	41	...	24	...	23	...	19	...	30	...	20	...	20	...	...	230	230	0.56
Pericarditis...	...	1	1	2	...	1	...	1	...	1	...	1	...	...	...	...	...	...	6	7	0.02
Heart Disease	...	52	2	55	...	27	...	49	...	16	1	35	...	22	...	11	4	282	286	0.70
Angina Pectoris...	...	...	...	5	...	...	...	2	...	...	...	1	...	...	...	1	...	...	9	9	0.02
Syncope...	...	1	1	1	...	...	...	1	...	1	...	1	...	...	...	1	...	...	6	7	0.02
Aneurism	...	...	...	4	...	...	...	1	...	...	...	...	...	...	...	...	...	1	1	5	0.01
Other Circulatory	...	1	...	...	...	1	...	1	...	...	...	1	...	...	...	...	...	...	5	5	0.01
Laryngitis	...	1	2	2	1	2	4	2	...	...	...	...	...	2	...	...	...	12	8	20	0.05
Croup (Membran us)	1	...	2	...	1	...	1	2	1	...	...	...	...	...	...	...	...	...	4	11	0.03
Bronchitis	5	...	2	...	2	...	2	...	4	...	...	...	...	...	...	...	...	...	2	24	0.06
Pneumonia	59	87	62	112	51	76	58	84	26	31	62	44	19	27	14	9	4	355	481	836	2.05	
Pneumonia	46	6	35	15	31	7	29	8	27	6	22	4	10	3	3	2	1	205	52	257	0.63	
Pleuro Pneumonia	12	55	18	54	5	28	47	58	2	20	11	35	6	25	8	7	5	111	302	413	1.01	
Pleurisy	1	2	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	15	0.04
Other Respiratory	1	15	9	4	1	3	1	5	1	...	3	1	...	4	3	21	24	0.06
	1	15	9	4	1	3	1	5	1	...	3	1	...	4	...	...	...	13	47	59	0.14

TABLE C. (Continued).

[illegible]

NOTES TO TABLE C.

This table is printed for the first time in the report for 1892. In it the causes of death are more detailed than in the other tables. They are classified as in Table A, part 2, according as the deaths were those of persons under or over the age of five. All the deaths which occurred in the following public institutions: the Infirmary, the Women and Children's Hospital, the Borough Fever and Small-pox Hospitals, the Leeds, Hunslet, Holbeck, and Bramley Workhouses, have been classified under the districts to which the patients belonged. The 161 deaths of persons who belonged to no district in the city have been separated in two columns by themselves, as deaths of outsiders; these deaths are, however, included in the total mortality of the city. As far as possible, the order of the Registrar-General has been followed in the arrangement of this table. The horizontal lines correspond with the groups in the Registrar-General's annual report.

Septicæmia includes deaths from pyæmia (1), phlegdæna (0), septicæmia (not puerperal) (7). *Parasitic* diseases were all due to thrush (11). *Starvation* includes purpura hæmorrhagica (2), scurvy, privation and want of breast milk (from which, however, there was no death), and inanition (65 deaths). *Rheumatic fever* in reports previous to 1892 had only the deaths ascribed in those terms to this disease by the medical attendant. Deaths from acute and sub-acute rheumatism had previously been classed under "rheumatism." A separate line has been given, both in Table C, Table A, and Tables 17 and 18, to prevent confusion and enable comparison. "*Rheumatism*" includes chronic rheumatism and disease simply described as "rheumatism" (see Report, 1893, page 144). *Anæmia* includes chlorosis (0), hæmophilia (0), but not leucocythemia; deaths from the latter, had any occurred, would have been referred to diseases of the *ductless glands*. In *malformations* are included cyanosis (1), patent foramen ovale (0), spina bifida (7), atelectasis (15), imperforate anus (3), cleft palate (4), harelip (0), and (14) other congenital defects.

Brain disease includes deaths registered from such causes as cerebral congestion, cerebral apoplexy, cerebral meningitis, and softening of the brain. *Meningitis* includes diseases classified as meningitis (101), and spinal (4) meningitis, but not tuberculous. *Apoplexy* includes all apoplexies not otherwise defined. *Paralysis* includes hemiplegia, paraplegia, and "paralysis." *General paralysis* (6) is included under insanity, and does not include deaths from "softening of the brain." *Convulsions* includes diseases so certified, and 4 deaths due to "fits." Fits of apoplexy, &c., come under other headings. We have tried, as far as possible, to keep to the old headings.

Endocarditis, &c., includes valvular disease of the heart. "Heart disease" includes such diseases as hypertrophy, atrophy, fatty degeneration, weak heart, cardiac disease or degeneration and "disease of the heart." *Angina pectoris* includes only those deaths in which the symptom but no disease is stated. *Aneurism* includes all the aneurisms so stated. *Other diseases of the circulatory system* includes atheroma. *Other respiratory diseases* includes asthma (24), emphysema (7), empyæma (6), pulmonary congestion (15), "lung disease" (0), and others (7). *Diseases of the stomach* include dyspepsia, hæmatemesis, gastritis. *Diseases of the bowels* include melæna (0), ulcer of intestines, obstruction of bowels, strangulation not due to hernia, intussusception. *Kidney disease* includes deaths from granular kidney (3), Bright's disease (73), other kidney diseases (12), and uræmia (6). *Albuminuria* includes only deaths in which the symptom without any pathological cause was registered. *Diseases of the urinary system* includes calculus, hæmaturia, cystitis and other diseases of the bladder. *Disease of the generative organs* includes uterine disease (7), ovarian disease (7), and "other diseases" of the generative organs, male (8), female (13). *Childbirth* includes all the accidents of parturition, except puerperal fevers.

Diseases of the bones and joints includes disease of the spinal column, but not, of course, such diseases as spinal sclerosis, which are now referred to disease of the nervous system. A comparison of mortality previous to 1890 is difficult, as the term spinal disease was used to include both diseases of the spinal column and of the spinal marrow. *Abscess* (41) includes cellulitis (5), phlegmon (0), carbuncle (1). *Injury* includes deaths from accident or negligence, homicide, suicide, and execution.

TABLE D.

Shewing death-rates from certain causes for the years 1890-1-2-3-4-5, the average of those years, and the corresponding rates for the year 1896.

	SEVEN COMMON ZYMOTICS.							Influenza and diseases of the air-passages other than consumption.
	Small-pox.	Measles.	Scarlatina.	Diphtheria.	Whooping cough.	"Fever" Diarrhoea.	All seven.	
1890 (53wks.)	0.00	0.27	0.28	0.07	0.50	0.30	0.98	2.39
1891 (52wks.)	0.00	0.71	0.18	0.04	0.41	0.20	0.86	2.41
1892 (52wks.)	0.02	0.20	0.20	0.08	0.42	0.17	1.10	2.18
1893 (52wks.)	0.08	0.90	0.08	0.15	0.44	0.30	1.60	3.55
1894 (52wks.)	0.01	0.75	0.13	0.15	0.34	0.14	0.45	1.98
1895 (52wks.)	....	0.35	0.13	0.10	0.29	0.22	1.58	2.65
<i>Death-rate for 313 weeks.</i>	0.02	0.53	0.17	0.10	0.40	0.22	1.10	2.53
1896 (53wks.)	0.00	0.48	0.18	0.10	0.60	0.21	0.69	2.27

TABLE E, Part 1 (Year 1896).

The following Births and Deaths were recorded in the several Sub-Registration Districts of the City of Leeds during the fifty-three weeks ended 2nd January, 1897. The figures in italics after the Births and Deaths give the proportion per annum per 1,000 of the estimated population.

Districts.	Births.	Birth Rate.	Deaths.	Death Rate.	
				All causes.	7 Zymotics.
North	2,318	37·2	1,298	20·8	2·9
West	2,253	26·1	1,534	17·8	1·6
South-East ...	1,146	33·5	834	24·4	3·1
Hunslet	2,141	33·0	1,273	19·6	3·3
Holbeck	913	34·0	544	20·2	2·1
Wortley	1,723	31·0	950	17·1	2·2
Kirkstall	1,040	27·8	537	14·3	1·4
Bramley	481	29·5	280	17·2	2·1
Chapeltown ...	552	22·8	261	10·8	1·2
Osmondthorpe ...	6	13·7	10	22·8	9·1
<i>Outsiders</i> ... ..	...	...	161	...	...
Totals	12,573	30·75	7,682	18·79	2·30

Considered as occurring in the Municipal Wards, the foregoing Deaths are classed as follows :—

Eastern Division.			Western Division.		
Wards.	Deaths.	Death Rate.	Wards.	Deaths.	Death Rate.
Central	420	18·5	Mill Hill	167	18·9
North	542	14·8	West	512	20·4
North-East ...	611	24·0	North-West ...	510	16·5
East	667	24·9	Brunswick	363	15·2
South	398	23·3	New Wortley ...	355	18·1
East Hunslet ...	580	20·8	Armley	540	17·0
West Hunslet ...	436	15·2	Bramley	335	16·4
Holbeck	534	22·1	Headingley ...	551	14·3

In both these tables deaths occurring in public institutions (including deaths at Manston Hospital) have been referred to the districts to which the patients belonged. The births in workhouses are included in those of the districts in which these institutions are situated.

As it is five years since the Census of the Wards and Districts was taken, the death-rates given above being calculated upon estimated populations, cannot, of course, be considered as more than approximately accurate.

TABLE E, Part 2

The following Births and Deaths were recorded in the several Sub-Registration Districts of the City of Leeds during the thirteen weeks ended 28th March, 1896. The figures in italics after the Births and Deaths give the proportion per annum per 1,000 of the estimated population.

Districts.	Births.	Birth Rate.	Deaths.	Death Rate.	
				All causes.	Zymotics.
North	543	35·5	323	21·1	2·5
West	526	24·9	379	17·9	1·2
South-East	281	33·5	201	24·0	3·1
Hunslet	524	32·9	309	19·4	4·3
Holbeck	232	35·2	134	20·3	2·3
Wortley	379	27·8	218	16·0	1·8
Kirkstall	247	26·9	147	16·0	2·4
Bramley	100	25·0	61	15·2	...
Chapeltown	124	20·9	54	9·1	1·0
Osmondthorpe	1	9·3	4	37·2	9·3
<i>Outsiders</i> ... ..	...	...	41	...	...
Totals	2,957	29·5	1,871	18·7	2·3

Considered as occurring in the Municipal Wards, the foregoing Deaths are classed as follows :—

Wards.			Deaths.	Death Rate.	Wards.			Deaths.	Death Rate.
Eastern Division.					Western Division.				
Central ...	...	110	19·7	Mill Hill ...	..	42	19·4
North ...	...	125	13·9	West ...	...	133	21·6
North-East	...	148	23·7	North-West	...	134	17·7		
East ...	...	166	25·2	Brunswick	..	77	13·2	
South ...	...	116	27·7	New Wortley	...	77	16·0	
East Hunslet	...	143	20·9	Armley ...	...	126	16·2	
West Hunslet	...	95	13·5	Bramley ...	...	76	15·1	
Holbeck ...	...	114	19·2	Headingley	...	148	15·6	

In both these tables deaths occurring in public institutions have been referred to the districts to which the patients belonged. The births in workhouses are included in those of the districts in which these institutions are situated. There was no death at Mauston Hospital during this quarter.

TABLE E, Part 3.

The following Births and Deaths were recorded in the several Sub-Registration Districts of the City of Leeds during the thirteen weeks ended 27th June, 1896. The figures in italics after the Births and Deaths give the proportion per annum per 1,000 of the estimated population.

Districts.	Births.	Birth Rate.	Deaths.	Death Rate.	
				All causes.	Zymotics.
North	584	38·2	300	19·6	2·7
West	579	27·4	389	18·4	1·6
South-East ...	295	35·2	201	24·0	3·8
Hunslet	516	32·4	323	20·3	2·3
Holbeck	228	34·6	130	19·7	1·2
Wortley	406	29·8	267	19·6	2·1
Kirkstall	257	28·0	122	13·3	1·2
Bramley	116	29·0	63	15·7	0·2
Chapeltown ...	118	19·8	57	9·6	0·5
Osmondthorpe ...	2	18·6	2	18·6	...
<i>Outsiders</i> ... ..	...	...	37	...	...
Totals	3,101	30·0	1,891	18·9	1·9

Considered as occurring in the Municipal Wards, the foregoing Deaths are classed as follows:—

Wards.			Deaths.	Death Rate.	Wards.			Deaths.	Death Rate.
Eastern Division.					Western Division.				
Central	...	...	98	17·6	Mill Hill	...	...	41	18·9
North	...	...	124	13·8	West	...	...	132	21·4
North-East	...	...	141	22·6	North-West	...	...	122	16·1
East	...	...	165	25·1	Brunswick	...	...	96	16·4
South	...	...	84	20·1	New Wortley	...	...	102	21·2
East Hunslet	...	...	143	20·9	Armley	...	...	152	19·5
West Hunslet	...	...	115	16·4	Bramley	...	...	76	15·1
Holbeck	...	...	138	23·3	Headingley	..	...	125	13·2

In both these tables deaths occurring in public institutions have been referred to the districts to which the patients belonged. The births in workhouses are included in those of the districts in which these institutions are situated. There was one death at Manston Hospital during this quarter, from smallpox.

TABLE E, Part 4.

The following Births and Deaths were recorded in the several Sub-Registration Districts of the City of Leeds during the fourteen weeks ended 3rd October, 1896. The figures in italics after the Births and Deaths give the proportion per annum per 1,000 of the estimated population.

Districts.	Births.	Birth Rate.	Deaths.	Death Rate.	
				All causes.	Zymotics.
North	594	<i>36.1</i>	341	<i>20.7</i>	<i>4.7</i>
West	588	<i>25.8</i>	376	<i>16.5</i>	<i>2.6</i>
South-East	285	<i>31.5</i>	207	<i>22.9</i>	<i>4.0</i>
Hunslet	592	<i>34.5</i>	358	<i>20.9</i>	<i>5.4</i>
Holbeck	233	<i>32.8</i>	150	<i>21.1</i>	<i>3.4</i>
Wortley	485	<i>33.0</i>	230	<i>15.7</i>	<i>3.1</i>
Kirkstall	271	<i>27.4</i>	126	<i>12.7</i>	<i>1.1</i>
Bramley	136	<i>31.6</i>	81	<i>18.8</i>	<i>4.6</i>
Chapeltown	162	<i>25.3</i>	69	<i>10.8</i>	<i>2.5</i>
Osmondthorpe	2	<i>17.3</i>	4	<i>34.5</i>	<i>25.9</i>
<i>Outsiders</i> ... ..	...	...	41	...	...
Totals	3,348	<i>31.0</i>	1,983	<i>18.4</i>	<i>3.6</i>

Considered as occurring in the Municipal Wards, the foregoing Deaths are classed as follows:—

Eastern Division.			Western Division.		
Wards.	Deaths.	Death Rate.	Wards.	Deaths.	Death Rate.
Central	111	<i>18.5</i>	Mill Hill	42	<i>18.0</i>
North	137	<i>14.1</i>	West	121	<i>18.2</i>
North-East	168	<i>25.0</i>	North-West	117	<i>14.4</i>
East	167	<i>23.6</i>	Brunswick	97	<i>15.4</i>
South	96	<i>21.3</i>	New Wortley	102	<i>19.7</i>
East Hunslet	171	<i>23.2</i>	Armley	118	<i>14.0</i>
West Hunslet	122	<i>16.1</i>	Bramley	91	<i>16.8</i>
Holbeck	153	<i>23.9</i>	Headingley	129	<i>12.7</i>

In both these tables deaths occurring in public institutions have been referred to the districts to which the patients belonged. The births in workhouses are included in those of the districts in which these institutions are situated. There was six deaths at Manston Hospital during this quarter, from typhus fever.

TABLE E, Part 5.

The following Births and Deaths were recorded in the several Sub-Registration Districts of the City of Leeds during the thirteen weeks ended 2nd January, 1897. The figures in italics after the Births and Deaths give the proportion per annum per 1,000 of the estimated population.

Districts.	Births.	Birth Rate.	Deaths.	Death Rate.	
				All causes.	7 Zymotics.
North	597	<i>39·0</i>	334	<i>21·8</i>	<i>1·6</i>
West	560	<i>26·5</i>	390	<i>18·4</i>	<i>0·7</i>
South-East	285	<i>34·0</i>	225	<i>26·8</i>	<i>1·6</i>
Hunslet	509	<i>31·9</i>	283	<i>17·8</i>	<i>1·1</i>
Holbeck	220	<i>33·4</i>	130	<i>19·7</i>	<i>1·5</i>
Wortley	453	<i>33·2</i>	235	<i>17·2</i>	<i>1·6</i>
Kirkstall	265	<i>28·8</i>	142	<i>15·4</i>	<i>0·9</i>
Bramley	129	<i>32·2</i>	75	<i>18·7</i>	<i>2·8</i>
Chapelton	148	<i>24·9</i>	81	<i>13·6</i>	<i>0·8</i>
Osmondthorpe	1	<i>9·3</i>	...	...	...
<i>Outsiders</i> ... ..	...	...	42	...	...
Totals	3,167	<i>31·6</i>	1,937	<i>19·3</i>	<i>1·3</i>

Considered as occurring in the Municipal Wards, the foregoing Deaths are classed as follows :—

Wards.			Deaths.	Death Rate.	Wards.			Deaths.	Death Rate.
Eastern Division.					Western Division.				
Central ...	...	101	18·1	Mill Hill ...	..	42	19·3
North ...	...	156	17·3	West ...	...	126	20·4
North-East	...	154	24·6	North-West	...	137	18·1		
East ...	...	169	25·4	Brunswick	..	93	15·9	
South ...	...	102	24·4	New Wortley	...	74	15·4	
East Hunslet	...	123	17·9	Armley ...	...	144	18·5	
West Hunslet	...	104	14·8	Bramley ...	...	92	18·3	
Holbeck ...	...	129	21·7	Headingley	...	149	15·7	

In both these tables deaths occurring in public institutions have been referred to the districts to which the patients belonged. The births in workhouses are included in those of the districts in which these institutions are situated. There was one death at Manston Cottages during this quarter.

TABLE E, Part 6.

The following Births and Deaths were recorded in the several Sub-Registration Districts of the City of Leeds during the thirteen weeks ended 3rd April, 1897. The figures in italics after the Births and Deaths give the proportion per annum per 1,000 of the estimated population.

Districts.	Births.	Birth Rate.	Deaths.	Death Rate.	
				All causes.	7 Zymotics.
North	617	39·7	318	20·5	2·1
West	564	26·5	410	19·3	1·0
South-East	331	38·9	201	23·6	0·5
Hunslet	603	37·3	324	20·1	0·9
Holbeck	257	38·5	158	23·6	0·7
Wortley	431	31·2	274	19·8	1·2
Kirkstall	267	28·7	147	15·8	1·0
Bramley	129	31·8	76	18·7	1·7
Chapeltown	153	23·4	92	14·1	1·4
Osmondthorpe	3	27·6	1	9·2	...
<i>Outsiders</i> ... ..	...	...	49	...	...
Totals	3,355	32·9	2,050	20·1	1·2

Considered as occurring in the Municipal Wards, the foregoing Deaths are classed as follows :—

Wards.			Deaths.	Death Rate.	Wards.			Deaths.	Death Rate.
Eastern Division.					Western Division.				
Central ... ..	...	111	19·6	Mill Hill ... ..	..	41	20·6
North ... ..	...	157	16·3	West ... ..	...	141	22·5
North-East ... ..	...	146	23·0	North-West ... ..	...	150	19·6
East ... ..	...	141	21·1	Brunswick ... ..	..	88	14·8
South ... ..	...	91	21·4	New Wortley ... ..	...	94	19·2
East Hunslet ... ..	...	150	21·6	Armley ... ..	...	158	20·0
West Hunslet ... ..	...	131	18·4	Bramley ... ..	...	97	19·0
Holbeck ... ..	...	155	25·8	Headingley ... ..	...	150	15·6

In both these tables deaths occurring in public institutions have been referred to the districts to which the patients belonged. The births in workhouses are included in those of the districts in which these institutions are situated. There was no death at Maunton Hospital during this quarter.

TABLE F.

Showing Births, Deaths, from all and certain causes, Home Patients of the Dispensary, admissions to the Fever Hospitals, and some of the Meteorological conditions and the Death Rates from certain causes in Leeds; with the Birth and Death Rates from all causes in the 33 large English towns for each of the thirteen weeks ended March 28th, 1896.

1896.		JANUARY.					FEBRUARY.					MARCH.				TOTALS OR AVERAGES.
		Jan 4th.	Jan. 11th.	Jan. 18th.	Jan. 25th.	Feb. 1st.	Feb. 8th.	Feb. 15th.	Feb. 22nd.	Feb. 29th.	Mar. 7th.	Mar. 14th.	Mar. 21st.	Mar. 28th.		
Total births	1	246	210	209	228	211	208	241	210	230	241	222	250	251	2,957	
Total deaths	2	145	137	135	144	154	156	147	127	143	132	176	139	136	1,871	
Under 1 year	3	40	32	40	40	33	39	26	31	38	27	42	42	28	458	
1 to 2 years	4	9	14	12	8	17	20	23	12	13	11	23	10	17	189	
2 to 5 years	5	13	15	13	12	15	10	16	5	19	11	14	5	11	159	
5 to 60 years	6	54	51	46	53	51	50	53	47	49	42	60	52	47	655	
60 yrs. and upwards	7	29	25	24	31	38	37	29	32	24	41	37	30	33	410	
Deaths : Small-pox	8															
Measles	9	5	9	7	5	3	4	6	4	10	4	5	1	3	66	
Scarlet fever	10		2		1	2	3	2		1					11	
*Diphtheria	11		1		2	1	1	5	1	1	1		1	3	17	
Whooping-cough	12	8	10	6	4	11	9	10	7	9	6	14	7	5	106	
{ Typhus fever	13															
{ Enteric fever	14	2	2	1	1	1	1	2		1			3	1	15	
{ Other or doubtful	15															
Diarrhœa or dysent.	16			1	1			2	1	3	3	1	1		13	
All seven	17	15	24	15	14	18	18	27	13	25	14	20	13	12	228	
Cholera	18															
Croup	19		1		1		1			1	2			1	7	
Dis. of resp. system	20	41	26	35	35	31	29	28	36	28	38	39	32	37	435	
Influenza	21	1					1								2	
Phthisis	22	8	9	11	14	11	12	15	10	15	11	12	17	10	155	
Dis. of circul. system	23	5	11	11	9	12	14	9	11	9	11	12	11	11	136	
Violent deaths....	24	8	9	5	8	9	8	1	2	1	2	6	3	7	69	
Inquest cases	25	22	17	14	13	18	13	11	10	8	6	17	12	11	172	
Deaths in Pub. Inst.	26	16	16	19	17	25	20	15	9	12	14	29	13	16	221	
Dispensary: visits pd	27	287	262	258	241	240	220	256	254	216	257	288	276	283	3,338	
Cases admitted to our own hospitals	28	17	12	8	13	12	4	17	7	10	7	8	6	10	131	
Barom. (inches)	29	29.84	30.50	29.63	30.00	30.41	30.27	30.14	29.91	30.03	29.11	29.83	29.55	29.70	29.91	
Attached ther. °F.	30	50.00	45.62	46.92	45.08	47.23	48.15	51.00	45.77	41.46	47.00	49.23	48.31	50.38	47.40	
Dry bulb	31	48.54	39.15	44.38	41.31	44.00	45.38	47.77	39.77	38.23	44.85	44.23	47.54	48.54	44.13	
Wet bulb	32	47.00	37.54	41.69	38.77	40.62	42.92	44.31	37.77	35.62	41.54	41.08	43.09	44.23	41.29	
Humidity.....	33	89.31	86.15	79.92	79.77	76.00	82.15	76.46	82.92	78.08	76.15	77.69	74.31	71.85	79.29	
Mn. of highest reading	34	50.29	40.86	46.57	42.37	46.43	48.00	51.00	43.00	41.86	47.71	49.00	52.29	52.71	47.10	
„ lowest	35	43.57	35.00	39.43	34.43	37.29	38.14	41.71	35.29	32.00	38.29	38.00	38.86	40.71	37.90	
„ daily range ...	36	6.72	5.86	7.14	5.14	9.14	9.86	9.29	7.71	9.86	9.42	11.00	13.43	12.00	9.20	
Total rainfall (inches)	37	0.46		0.36	0.05	0.05		0.04	0.29	0.49	0.98	0.48	0.54	0.74	4.48	
Wind {direction ...	38	SE	NW	NW	NW SW	SW	SW	SW	SE	SE	NW SW	NW	SW SW	SW NW		
{force 0-6	39	1	1	2	1	1	1	1	1	1	2	1	1	1	1	
Amount of cloud 0-10	40															
Birth rate (Leeds) ..	41	31.9	27.2	27.1	29.6	27.4	27.0	31.2	27.2	29.8	31.2	28.8	32.4	32.5	29.5	
Death rate (Leeds)...	42	18.8	17.8	17.5	18.7	20.0	20.2	19.1	16.5	18.5	17.1	22.8	18.0	17.6	18.7	
„ (33 towns)	43	32.2	30.2	29.0	28.5	29.5	31.1	30.7	28.9	31.1	30.3	32.1	30.8	31.8	30.4	
Birth rate (33 towns)	44	20.7	18.5	19.7	18.8	18.4	20.5	19.3	19.4	20.0	20.7	20.0	19.2	18.8	19.5	
D.R. lung dis. (Leeds)	45	5.3	3.4	4.5	4.5	4.0	3.8	3.6	4.7	3.6	4.9	5.1	4.3	4.8	4.3	
D.R. Whpg. cough	46	1.0	1.3	0.8	0.5	1.4	1.2	1.3	0.9	1.2	0.8	1.8	0.9	0.6	1.1	

The Dispensary returns are furnished me by the kindness of the resident staff, and have regard to a week ended in each case a day earlier than that given in the heading. The meteorological data are compiled from returns sent me by Mr. Crowther. They are uncorrected readings made at 10 a.m. and 4 p.m. The humidity each week is the average of the humidities calculated on each of the thirteen observations of the wet and dry bulbs.

The corrected humidity in Mr. Glaisher's report for the quarter is, for the calendar month of January, 86; February, 81; March, 79. Average, 82.

* Including membranous croup. Line 19 includes non-spasmodic croup not returned as membranous.

TABLE F.—(continued).

Shewing Births, Deaths, from all and certain causes, Home Patients of the Dispensary, admissions to the Fever Hospitals, with some of the Meteorological conditions and the Death-rates from certain causes in Leeds; with the Birth and Death-rates from all causes in the 33 large English towns for each of the thirteen weeks ended June 27th, 1896.

1896.		APRIL.					MAY.					JUNE.					TOTALS OR AVERAGES.
		April 4th.	April 11th.	April 18th.	April 25th.	May 2nd.	May 9th.	May 16th.	May 23rd.	May 30th.	June 6th.	June 13th.	June 20th.	June 27th.			
Total Births	1	220	220	205	224	224	260	232	240	210	258	257	231	230	3,101		
Total Deaths	2	157	150	143	132	136	147	129	160	142	143	138	148	157	1,891		
Under 1 year	3	35	45	32	32	24	41	30	39	42	38	41	47	61	507		
1 to 2 years	4	18	11	9	13	13	17	15	15	11	11	11	5	13	162		
2 to 5 years	5	14	10	14	13	7	9	6	9	11	7	11	9	4	124		
5 to 60 years	6	52	64	48	48	64	52	41	58	55	50	51	53	55	691		
60 yrs. and upwards	7	38	29	40	26	28	28	37	30	23	37	24	34	24	407		
Deaths: Small-pox ..	8	...	...	1	...	...	...	...	...	...	...	...	...	...	1
Measles	9	2	4	5	4	3	5	1	4	6	5	4	3	4	50		
Scarlet Fever	10	2	...	...	1	...	...	1	1	...	...	1	1	...	7
* Diphtheria	11	...	2	...	3	...	1	...	1	1	...	1	...	...	9
Whooping-cough ..	12	15	14	8	5	3	6	4	4	4	4	4	5	3	79		
Typhus Fever	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	14	2	...	...	...	1	1	...	2	1	1	2	1	...	11
Other or doubtful ..	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhoea or Dysent.	16	3	2	2	3	1	...	...	4	...	1	2	2	18	38
All seven	17	24	22	16	16	8	13	6	16	12	11	14	12	25	195		
Cholera	18	...	...	...	...	...	...	...	...	...	...	1	...	...	1
Croup	19	...	3	...	2	...	...	...	...	...	1	...	...	...	6
Dis. of Resp. System	20	39	31	29	30	37	35	48	38	37	34	36	28	23	445		
Influenza	21	...	1	3	...	1	...	...	1	1	1	1	...	...	9
Phthisis	22	16	14	8	13	15	9	7	15	13	11	15	12	7	155		
Dis. of Circul. System	23	5	10	8	10	16	15	8	15	6	8	9	13	15	138		
Violent Deaths	24	3	3	5	3	3	6	1	3	6	2	1	9	7	52		
Inquest cases	25	8	12	9	4	12	7	6	9	11	7	6	13	16	120		
Deaths in Pub. Inst.	26	20	18	13	7	16	19	22	22	13	20	13	23	13	219		
* Dispensary: visits pd.	27	235	165	232	210	205	236	209	205	194	197	238	269	258	2,853		
Cases admitted to our own hospitals	28	4	7	8	7	8	10	5	8	8	7	9	17	10	108		
Barom. (inches)	29	29.90	29.99	29.94	30.13	29.83	30.21	30.14	29.91	30.21	29.70	29.68	29.82	29.95	29.96		
Attached Ther. °F ..	30	47.08	53.62	48.38	54.08	52.54	52.77	59.54	58.15	58.85	61.77	63.00	60.15	63.49	56.93		
Dry bulb	31	46.83	53.38	48.62	56.08	51.54	58.54	62.77	57.38	58.62	65.77	66.38	68.69	64.54	58.46		
Wet bulb	32	42.58	47.69	43.15	50.38	44.92	50.23	53.85	51.69	52.38	57.00	59.85	59.69	57.23	51.64		
Humidity	33	71.67	66.23	67.15	67.38	61.92	57.23	56.15	68.00	66.31	59.08	67.38	58.77	63.00	63.82		
Mn. of highest reading	34	50.29	56.71	52.14	61.00	56.14	63.71	69.14	63.14	63.86	72.14	70.86	72.57	70.14	63.22		
„ lowest „	35	36.00	46.14	38.29	44.71	43.43	42.43	46.43	47.71	46.57	50.86	53.14	55.71	52.87	46.48		
„ daily range ..	36	14.29	10.57	13.85	16.29	12.71	21.28	22.71	15.43	17.29	21.28	17.72	16.86	17.27	16.74		
Total rainfall (inches)	37	0.12	0.43	0.53	...	0.21	...	...	0.50	...	1.07	0.93	1.18	0.35	5.32
Wind { Direction ..	38	NW	NW	SW NW	NW	NW	NW	NW SE	NW	NNE	SE	SE	SW	WNW	...		
{ Force 0-6 ..	39	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Amount of Cloud 0-10	40	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Birth-rate (Leeds) ...	41	29.3	29.7	34.4	29.0	29.0	34.5	30.1	31.1	27.2	33.4	33.3	28.7	31.0	30.9		
Death-rate (Leeds) ...	42	20.4	20.6	18.5	17.1	17.6	19.1	16.7	20.7	18.4	18.5	17.9	19.2	20.4	18.9		
Birth-rate (33 towns)	43	31.5	31.0	34.1	32.6	30.9	32.3	30.2	30.2	27.0	32.1	31.6	30.1	30.0	31.1		
Death-rate (33 towns)	44	18.3	20.0	19.0	19.5	18.4	18.5	18.4	18.1	17.6	17.8	16.7	17.3	16.9	18.2		
D. R. lung dis. (Leeds)	45	5.1	4.0	3.8	3.9	4.8	4.5	6.2	4.9	4.8	4.4	4.7	3.6	3.0	4.4		
D. R. W-cough Leeds	46	1.9	1.8	1.0	0.6	0.4	0.8	0.5	0.5	0.5	0.5	0.5	0.6	0.4	0.8		

The Dispensary returns are furnished me by the kindness of the resident staff, and have regard to a week ended in each case a day earlier than that given in the heading.

The meteorological data are compiled from returns sent me by Mr. Crowther. These are uncorrected readings, made at 10 a.m. and 4 p.m. The humidity each week is the average of the humidities calculated on each of the thirteen observations of the wet and dry bulbs. The corrected humidity in Mr. Glaisher's report for the quarter is, for the calendar month of April, 74; May, 71; June, 66. Average, 70.

* Including membranous croup. Line 19 includes non-spasmodic croup not returned as membranous.

TABLE F.—(continued).

Shewing Births, Deaths, from all and certain causes, Home Patients of the Dispensary, admissions to the Fever Hospitals, with some of the Meteorological conditions and the Death-rates from certain causes in Leeds; with the Birth and Death rates from all causes in the 33 large English towns of each of the fourteen weeks ended October 3rd, 1896.

1896.		JULY.					AUGUST.				SEPTEMBER.					TOTALS OR AVERAGES.
		July 4th.	July 11th.	July 18th.	July 25th.	August 1st.	August 8th.	August 15th.	August 22nd.	August 29th.	Sept. 5th.	Sept. 12th.	Sept. 19th.	Sept. 26th.	Oct. 3rd.	
Total Births	1	256	227	245	230	269	195	243	240	206	219	240	254	262	262	3,348
Total Deaths	2	132	168	166	174	156	157	168	132	133	125	112	121	105	134	1,983
Under 1 year	3	45	68	77	89	57	54	57	43	40	30	33	38	29	32	692
1 to 2 years.....	4	16	15	15	10	10	14	7	7	8	7	7	6	7	9	138
2 to 5 years.....	5	13	9	8	5	13	9	7	10	10	7	5	6	5	8	118
5 to 60 years	6	37	54	42	44	51	52	57	44	50	51	40	40	38	56	656
60 yrs. and upwards	7	21	22	24	26	25	28	40	28	25	30	27	31	23	29	379
Deaths: Small-pox..	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	9	9	7	3	6	6	6	2	5	...	1	1	2	2	1	51
Scarlet Fever	10	1	1	3	...	...	1	1	2	6	1	1	...	4	3	24
*Diphtheria	11	...	...	...	...	...	2	1	1	2	2	2	1	1	2	14
Whooping-cough..	12	2	6	7	3	5	2	1	...	2	...	3	1	2	3	37
Typhus Fever.....	13	...	...	...	...	...	...	...	...	2	3	2	...	...	...	7
Enteric Fever.....	14	...	1	2	2	...	5	2	4	2	4	...	...	4	4	30
Other or doubtful	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhœa or Dysent.	16	15	27	46	35	31	21	21	6	6	5	1	7	2	2	225
All seven.....	17	27	42	61	46	42	37	28	18	20	16	10	11	15	15	388
Cholera	18	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1
Croup	19	...	...	...	...	1	2	...	...	...	...	...	...	...	...	3
Dis. of Resp. System	20	21	15	24	20	29	14	20	22	17	17	19	19	16	16	269
Influenza.....	21	1	1	...	...	...	...	1	...	...	...	...	...	...	...	3
Phthisis	22	9	10	11	12	11	13	14	6	13	9	3	6	9	14	140
Dis. of Circul. System	23	1	7	4	11	7	9	16	7	8	15	11	11	9	8	124
Violent Deaths	24	7	4	5	2	4	6	7	2	3	4	6	4	5	7	66
Inquest cases	25	13	11	8	7	6	9	11	6	8	11	10	13	8	13	134
Deaths in Pub. Inst.	26	13	12	19	22	14	17	22	12	21	13	15	10	8	22	220
*Dispensary: visits pd.	27	294	299	259	219	200	148	197	230	250	234	251	257	280	224	3,342
Cases admitted to our own hospitals	28	9	11	14	23	22	16	26	34	24	26	16	27	11	18	277
Barom. (inches)	29	29·82	29·91	30·06	29·80	29·86	29·97	29·98	29·84	29·77	29·72	29·67	29·51	29·28	29·90	29·79
Attached Ther. °F...	30	63·23	65·77	67·38	65·62	62·15	60·08	61·92	61·77	59·08	59·85	60·08	59·08	55·00	54·69	61·12
Dry bulb.....	31	62·46	68·46	66·62	66·69	63·31	59·54	62·92	62·15	58·62	59·00	60·23	58·69	53·77	56·08	61·32
Wet bulb.....	32	54·23	60·54	59·23	59·08	56·69	53·62	56·85	55·62	53·23	56·77	57·62	53·77	50·38	52·46	55·72
Humidity	33	58·08	62·38	63·38	63·15	65·46	67·00	67·08	65·31	69·38	86·31	84·62	71·92	78·85	77·46	70·03
Mn. of highest reading	34	66·57	74·14	72·57	71·71	68·14	63·29	66·29	65·71	62·14	61·86	64·57	64·14	57·29	59·86	65·59
„ lowest „	35	54·43	55·71	53·57	56·00	51·86	51·29	54·43	54·00	51·00	54·00	54·57	54·29	47·00	47·57	52·56
„ daily range ..	36	12·14	18·43	19·00	15·71	16·28	12·00	11·86	11·71	11·14	7·86	10·00	9·85	10·29	12·20	13·03
Total rainfall (inches)	37	0·03	0·26	0·01	0·87	0·31	0·31	...	0·27	0·70	1·41	0·50	0·33	1·42	0·30	6·72
Wind { Direction ...	38	NW	SE	N SW	SW W	NESE	SE N	NW	NW W	NWSW	NW E	SE	SW	NWSW	NWSW	...
{ Force 0-6 ...	39	1	1	1	1	1	1	1	1	1	1	1	1	1	...	1
Amount of Clouds-10	40	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Birth-rate (Leeds) ...	41	33·2	29·4	31·8	29·8	34·9	25·2	31·5	31·1	26·7	28·4	31·1	32·9	34·0	34·0	31·0
Death-rate (Leeds)...	42	17·1	21·8	21·5	22·6	20·2	20·4	21·8	17·1	17·2	16·2	14·5	15·7	13·6	17·4	18·4
Birth-rate (33 towns)	43	30·6	31·4	30·1	29·5	31·9	27·5	31·4	30·7	30·5	28·6	30·3	30·9	28·4	33·8	30·4
Death-rate (33 towns)	44	17·8	19·9	21·4	24·8	24·4	21·4	19·9	18·0	17·4	16·5	15·8	15·1	15·3	15·7	18·8
D.R. lung dis. (Leeds)	45	2·7	1·9	3·1	2·6	3·8	1·8	2·6	2·9	2·2	2·2	2·5	2·5	2·1	2·1	2·5
D.R. diarrhœa Leeds	46	1·9	3·5	6·0	4·5	4·0	2·7	2·7	0·8	0·8	0·6	0·1	0·9	0·3	0·3	2·1

The Dispensary returns are furnished me by the kindness of the resident staff, and have regard to a week ended in each case a day earlier than that given in the heading.

The meteorological data are compiled from returns sent me by Mr. Crowther. These are uncorrected readings, made at 10 a.m. and 4 p.m. The humidity each week is the average of the humidities calculated on each of the thirteen observations of the wet and dry bulbs. The corrected humidity in Mr. Glaisher's report for the quarter is, for the calendar month of July, 73; August, 72; September, 84. Average, 76.

* Including membranous croup. Line 19 includes non-spasmodic croup not returned as membranous.

TABLE F (continued).

Shewing Births, Deaths, from all and certain causes, Home Patients of the Dispensary, admissions to the Fever Hospitals, with some of the Meteorological conditions and the Death-rates from certain causes in Leeds; with the Birth and Death-rates from all causes in the 33 large English towns of each of the thirteen weeks ended 2nd January, 1897, and the totals for the year 1896.

1896.		OCTOBER.				NOVEMBER.				DECEMBER.					TOTALS OR AVERAGES.	YEAR.
		Oct. 10th.	Oct. 17th.	Oct. 24th.	Oct. 31st.	Nov. 7th.	Nov. 14th.	Nov. 21st.	Nov. 28th.	Dec. 5th.	Dec. 12th.	Dec. 19th.	Dec. 26th.	Jan. 2nd.		
Total Births	1	224	239	208	288	252	244	235	255	228	252	234	185	263	3,167	12,573
Total Deaths	2	132	120	116	152	150	109	177	145	156	135	138	145	196	1,937	7,682
Under 1 year	3	30	30	27	35	45	35	52	28	34	40	31	32	38	463	2,120
1 to 2 years	4	5	9	13	10	12	13	10	12	17	6	16	9	13	145	634
2 to 5 years	5	4	7	4	12	6	10	7	6	8	10	9	12	13	108	509
5 to 60 years	6	49	50	47	62	48	69	66	97	60	50	53	54	84	765	2,767
60 yrs. and upwards	7	38	24	25	33	39	42	42	32	37	29	29	38	48	456	1,652
Deaths: Small-pox..	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Measles	9	2	...	...	3	2	4	3	3	2	2	2	3	5	31	198
Scarlet Fever	10	2	2	3	1	3	3	...	2	4	2	2	3	3	30	72
* Diphtheria	11	...	...	1	...	1	...	1	3	1	...	...	2	1	10	50
Whooping-cough..	12	1	1	...	1	...	4	3	...	4	2	2	2	5	25	247
Typhus Fever	13	...	...	...	...	...	...	...	...	1	...	...	...	1	2	9
Enteric Fever	14	2	2	2	3	3	...	1	2	4	...	1	1	...	21	77
Other or doubtful	15	...	...	...	...	...	...	1	...	...	...	...	...	...	1	1
Diarrhœa or Dysent.	16	...	...	1	1	2	1	...	...	...	1	1	...	1	8	284
All seven	17	7	5	7	9	11	12	9	10	16	7	8	11	16	128	939
Cholera	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Croup	19	...	1	1	...	...	1	...	...	1	2	1	1	...	8	24
Dis. of Resp. System	20	25	24	27	54	28	47	62	37	41	37	33	34	46	495	1,644
Influenza	21	...	...	...	1	...	...	...	...	1	...	1	...	3	6	20
Phthisis	22	8	10	9	10	15	14	18	13	17	9	16	9	15	163	613
Dis. of Circul. System	23	10	16	8	14	15	14	7	13	11	10	7	11	16	152	550
Violent Deaths	24	6	6	3	6	6	5	5	5	5	6	9	9	9	80	267
Inquest cases	25	11	11	8	13	15	20	13	11	12	21	14	16	25	190	616
Deaths in Pub. Inst.	26	19	14	13	21	22	22	13	22	15	13	13	20	41	248	908
* Dispensary: visits pd.	27	260	247	244	274	287	360	311	306	271	258	293	292	250	3,653	13,186
Cases admitted to our own hospitals	28	13	20	17	21	11	19	27	21	13	19	25	9	17	232	748
Barom. (inches)	29	29.36	29.94	29.24	29.46	29.98	29.82	29.82	30.27	29.55	29.34	29.46	29.90	29.91	29.69	29.84
Attached Ther. 'F ...	30	52.16	49.70	46.78	44.15	44.85	47.85	48.54	50.85	47.15	50.46	45.15	44.42	48.69	47.77	53.45
Dry bulb	31	50.63	47.63	43.16	40.38	40.92	44.23	44.23	44.00	40.00	43.31	36.38	38.83	43.54	42.89	51.89
Wet bulb	32	46.00	44.86	40.09	38.62	38.38	41.77	41.77	41.38	38.38	41.38	34.69	37.33	40.77	40.43	47.72
Humidity	33	71.16	80.38	78.24	83.92	80.62	81.92	81.69	80.77	85.77	85.38	84.62	86.83	79.08	81.54	73.60
Mn. of highest reading	34	55.29	49.86	46.14	43.71	44.86	46.29	46.71	45.14	42.43	45.14	38.14	42.14	46.71	45.58	55.57
„ lowest „	35	43.71	40.86	36.71	34.29	34.43	39.29	38.71	42.29	35.71	39.14	33.29	33.71	37.14	37.64	43.82
„ daily range ...	36	11.58	9.00	9.43	9.42	10.43	7.00	8.00	2.85	6.72	6.00	4.85	8.43	9.57	7.94	11.75
Total rainfall (inches)	37	1.98	0.46	0.62	0.75	0.75	0.46	0.25	0.06	1.42	0.73	0.26	0.33	0.65	8.72	25.24
Wind { Direction ...	38	SW	NWN	NW	NWN	NW	NWSW	SWNW	SE NW	SE	SE	NW	NW	SW	...	...
Force 0-6 ...	39	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1
Amount of Clouds-10	40	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Birth-rate (Leeds) ...	41	29.0	31.0	34.7	37.3	32.7	31.6	30.5	33.1	29.6	32.7	30.3	24.0	34.1	31.6	30.75
Death-rate (Leeds) ...	42	17.1	16.3	15.0	19.7	19.4	21.9	22.9	18.8	20.2	17.5	17.9	18.8	25.4	19.3	18.79
Birth-rate (33 towns)	43	30.1	31.6	32.6	33.0	32.8	32.1	31.4	31.4	29.2	30.5	31.0	23.0	35.9	31.1	30.78
Death-rate (33 towns)	44	16.7	16.3	17.6	19.7	20.6	20.8	21.3	19.3	19.4	18.9	18.2	17.0	22.3	19.1	18.93
D. R. lung dis. (Leeds)	45	3.2	3.1	3.5	7.0	3.6	6.1	8.0	4.8	5.3	4.8	4.3	4.4	6.0	4.9	4.02
D. R. 7 zymotics do.	46	0.9	0.6	0.9	1.1	1.4	1.6	1.1	1.3	2.1	0.9	1.0	1.4	2.1	1.3	2.30

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The meteorological data are compiled from returns sent me by Mr. Crowther. These are uncorrected readings, made at 10 a.m. and 4 p.m. The humidity each week is the average of the humidities calculated on each of the thirteen observations of the wet and dry bulbs. The corrected humidity in Mr. Glaisher's report for the quarter is, for the calendar month of October, 81; November, 84; December, 87. Average, 84.

* Including membranous croup. Line 19 includes non-spasmodic croup not returned as membranous.

TABLE F.

Showing Births, Deaths, from all and certain causes, Home Patients of the Dispensary, admissions to the Fever Hospitals, and some of the Meteorological conditions and the Death Rates from certain causes in Leeds; with the Birth and Death Rates from all causes in the 33 large English towns for each of the thirteen weeks ended April 3rd, 1897.

1897.	JANUARY.				FEBRUARY.				MARCH.					TOTALS OR AVERAGES.	
	Jan. 9th.	Jan. 16th.	Jan. 23rd.	Jan. 30th.	Feb. 6th.	Feb. 13th.	Feb. 20th.	Feb. 27th.	Mar. 6th.	Mar. 13th.	Mar. 20th.	Mar. 27th.	Apr. 3rd.		
Total births	1	279	251	239	242	233	288	262	256	247	247	268	270	273	3,355
Total deaths	2	172	161	160	158	169	161	157	163	159	156	162	132	140	2,050
Under 1 year	3	34	31	34	32	38	30	33	49	47	41	48	23	33	473
1 to 2 years	4	14	14	6	10	9	9	12	15	13	7	15	14	8	146
2 to 5 years	5	14	13	11	12	8	15	9	9	10	6	8	13	5	133
5 to 60 years	6	60	53	62	60	66	67	64	58	49	58	51	48	61	757
60 yrs. and upwards	7	50	50	47	44	48	40	39	32	40	44	40	34	33	541
Deaths : Small-pox	8														
Measles	9	6	5	3	1		2	3	4	1	2	1	4	2	34
Scarlet fever	10	2	4		4	2	4	3	2	2	2	3	2	1	31
*Diphtheria	11	3	1	1	1	4	1	1		2		2	2	1	19
Whooping-cough	12	3	1	2	4		1	1	2		1	2	1		18
{ Typhus fever	13														
{ Enteric fever	14		2			2	1		3	1		2	1	1	13
{ Other or doubtful	15														
Diarrhoea or dysent.	16		1						1		1	1	1		5
All seven	17	14	14	6	10	8	9	8	12	6	6	11	11	5	120
Cholera	18														
Croup	19		1		2	2							1	1	7
Dis. of resp. system	20	38	40	34	34	40	37	39	41	37	35	45	27	40	488
Influenza †	21			1		1				2	1	2	2	2	11
Phthisis	22	13	10	15	13	13	12	15	14	11	8	14	15	7	160
Dis. of circul. system	23	11	13	18	16	9	8	15	9	11	15	10	9	6	150
Violent deaths.....	24	6	5	8	4	7	6	8	7	5	3	1	2	3	65
Inquest cases	25	15	12	22	14	13	15	13	12	10	15	9	8	10	168
Deaths in Pub. Inst.	26	11	20	19	16	27	13	21	12	23	19	15	12	25	233
Dispensary: visits pd	27	282	304	296	319	339	360	405	429	378	391	392	374	326	4,595
Cases admitted to our own hospitals	28	11	16	14	18	24	23	13	14	18	10	18	3	9	191
Barom. (inches)	29	29.70	29.78	29.81	29.55	29.36	29.86	30.08	30.05	29.16	29.64	29.32	29.54	29.27	29.63
Attached ther. °F.	30	45.62	45.31	42.31	39.54	41.92	44.85	50.15	53.23	47.08	47.00	49.69	54.85	47.00	46.81
Dry bulb	31	37.77	37.62	34.08	33.85	34.92	41.38	46.92	50.00	41.62	43.00	47.23	52.54	41.15	41.70
Wet bulb.....	32	36.54	36.01	32.77	31.39	33.85	39.07	44.23	46.31	37.92	39.46	44.00	48.31	37.00	38.99
Humidity.....	33	89.15	85.92	86.68	75.24	88.98	82.14	80.92	75.54	73.08	74.77	77.38	73.38	70.23	79.50
Min. of highest reading	34	39.86	39.29	36.28	37.00	37.14	44.86	50.14	52.43	46.00	46.57	50.14	57.30	45.01	44.78
„ lowest „	35	34.71	33.57	29.43	29.00	32.00	35.14	42.28	44.14	34.57	35.43	40.00	47.30	34.01	36.29
„ daily range	36	5.15	5.72	6.85	8.00	5.14	9.72	7.86	8.29	11.43	11.14	10.14	10.00	11.00	8.49
Total rainfall (inches)	37	1.64	0.18	0.22	0.14	1.90	0.08	0.62	0.09	1.16	0.41	0.66	0.45	0.12	7.67
Wind (direction)	38	SE	N	NW	NWNE	NW	N	NW	SE	SW	NW	NW	S	SE	SE
„ (force 0-6)	39	1	1	1	1	1	1	1	1	2	2	1	2	2	1
Amount of cloud 0-10	40														
Birth rate (Leeds) ..	41	35.4	32.0	30.5	30.8	29.7	36.7	33.4	32.6	31.5	31.5	34.2	34.4	34.8	32.9
Death rate (Leeds)...	42	21.9	20.5	20.3	20.1	21.5	20.5	20.0	20.8	20.3	19.9	20.6	16.8	17.8	20.1
Birth rate (33 towns) ..	43	32.9	33.8	30.0	31.2	31.0	35.4	31.9	31.5	30.4	31.7	30.3	31.8	30.7	31.7
Death rate(33 towns) ..	44	19.4	19.2	19.7	20.6	20.8	19.6	18.8	19.4	18.1	18.6	18.7	18.7	18.3	19.2
D.R. lung dis. (Leeds) ..	45	4.8	5.1	4.3	4.3	5.1	4.7	5.0	5.2	4.7	4.5	5.7	3.4	5.1	4.8
D.R. Seven Zym. „	46	1.8	1.8	0.8	1.3	1.0	1.1	1.0	1.5	0.8	0.8	1.4	1.4	0.6	1.2

The Dispensary returns are furnished me by the kindness of the resident staff, and have regard to a week ended in each case a day earlier than that given in the heading. The meteorological data are compiled from returns sent me by Mr. Crowther. They are uncorrected readings made at 10 a.m. and 4 p.m. The humidity each week is the average of the humidities calculated on each of the thirteen observations of the wet and dry bulbs.

The corrected humidity in Mr. Glaisher's report for the quarter is, for the calendar month of January, 81; February, 83; March, 78. Average, 81.

* Including membranous croup. Line 19 includes non-spasmodic croup not returned as membranous.

† Line 21 is included in line 20 in this and previous tables.